Haeree Park

The Writing System of Scribe Zhou

Studies in Manuscript Cultures

Edited by
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Volume 4

Haeree Park

The Writing System of Scribe Zhou

Evidence from Late Pre-imperial Chinese Manuscripts and Inscriptions (5th–3rd centuries BCE)

DE GRUYTER

This book project was supported by an Alexander von Humboldt Fellowship (Summer 2011, Summer 2012 – Fall 2013), DFG-Forschergruppe 963 „Manuscript Cultures in Asia and Africa“ (Fall 2009), DFG-Sonderforschungsbereich 950 „Manuscript Cultures in Asia, Africa and Europe“ (Winter 2013), for all of which the author is very grateful.

ISBN 978-3-11-044944-0
e-ISBN (PDF) 978-3-11-045930-2
e-ISBN (EPUB) 978-3-11-045931-9

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Library of Congress Cataloging-in-Publication Data
A CIP catalog record for this book has been applied for at the Library of Congress.

Bibliographic information published by the Deutsche Nationalbibliothek
The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data are available on the Internet at http://dnb.dnb.de.

© 2016 Haeree Park, published by Walter de Gruyter GmbH, Berlin/Boston.
The book is published with open access at degruyter.com.

Printing and binding: CPI books GmbH, Leck
♾ Printed on acid-free paper
Printed in Germany

www.degruyter.com

In loving memory of my father Park Nung-chul

Acknowledgements

I would like to express my sincere appreciation to the Department of Asian Languages and Literature, University of Washington, Seattle, for their long-term support, especially to Professors Anne Yue-Hashimoto, David Knechtges and Zev Handel, and to the late Professor Jerry Norman. I owe a special debt of gratitude to Professor Michael Friedrich of the University of Hamburg and Director of the Center for the Study of Manuscript Cultures for his many critical comments on drafts of this book and for his constant support of my work generally. I am also grateful to Professor Matthias Richter at the University of Colorado, Boulder, for his many useful suggestions and critical comments, and to my senior colleagues in the field of Chinese historical linguistics, Professors Wolfgang Behr at the University of Zurich, William H. Baxter at the University of Michigan, Ann Arbor, and Laurent Sagart at the Center de Recherches Linguistiques sur l'Asie Orientale, EHESS, Paris for their encouragement and kind support throughout my graduate and post-doctoral career. I am greatly indebted to my teacher Professor William G. Boltz who supported and guided me with his vast knowledge and keen insight through the planning and completion of this book. I am thankful to Deng Lin from Seattle and Thies Staack from Hamburg, who were always there as good friends and knowledgeable colleagues.

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Symbols and Abbreviations

CWZ	*Chu Wenzi bian* 楚文字編 (Li Shoukui 2003)
EP	equivalent phonophoric
GD	*Guodian Chumu Zhujian* 郭店楚墓竹簡 (Jingmenshi Bowuguan 1998)
Cheng	"Cheng zhi wen zhi 成之聞之"
Liu	"Liu de 六德"
Lu	"Lu Mu Gong wen Zi Si 魯穆公問子思"
LZ-A, B, C	"Laozi 老子 jia 甲, yi 乙, bing 丙"
Qiong	"Qiong da yi shi 窮達以時"
Tang	"Tang Yu zhi dao 唐虞之道"
Tai	"Tai yi sheng shui 太一生水"
Wu	"Wuxing 五行"
Xing	"Xing zi ming chu 性自命出"
Yu-1, 2, 3, 4	"Yu cong 語叢 yi 一, er 二, san 三, si 四"
Zhong	"Zhong xin zhi dao 忠信之道"
Zi	"Ziyi 緇衣"
Zun	"Zun de yi 尊德義"

E.g., (Cheng 12) means strip number 12 of the "Cheng zhi wen zhi" manuscript in the *Guodian Chumu zhujian.*

Fuyang "Zhouyi"	The "Zhouyi" manuscript in *Fuyang Hanjian Zhouyi Yanjiu* 阜陽漢簡周易研究 by Han Ziqiang 韓自強 (2004)
GSR (# no.)	*Grammata Serica Recensa* phonophoric series number (Karlgren 1957)
Hex. (no.)	hexagram chapter number in the *Zhouyi*
Houma Mengshu	*Houma Mengshu* 侯马盟书 by Shandong sheng wenwu gongzuo weiyuanhui 山东省文物工作委员会 (1976)
JC (no.)	*Yin Zhou Jinwen Jicheng* 殷周金文集成 (1984-1994) inscription number
Jiagu wen bian	*Jiagu wen bian* 甲骨文編 by Zhongguo kexueyuan kaogu yanjiusuo 中國科學院考古研究所 (1965)
Jingdian Shiwen	*Jingdian Shiwen* 經典釋文 by Lu Deming (CE 6th century), reprint 1985
JWB	*Jinwen bian* 金文編 (Rong Geng 1985)
Mao (no.)	*Shijing* 詩經 poem sequence in *Maoshi Zhengyi* 毛詩正義 by Mao Heng 毛亨 (Han dynasty), 鄭玄 Zheng Xuan (Han dynasty), and 孔穎達 Kong Yingda (Tang dynasty) in *Shisanjing Zhushu* 十三經注疏 by Ruan Yuan 阮元 (Qing dynasty); reprint, Li Xueqin 李學勤 et al. ed., 2000.
MC	Middle Chinese
MWD	Mawangdui 馬王堆 "Zhouyi" manuscript in Ma Chengyuan ed. 2003, 216-250, and Zhang Zhenglang, 1984.

MWX (no.)	*Shang Zhou Qingtongqi Mingwen xuan* 商周青銅器銘文選 (1987-1990, Ma Chengyuan ed.) inscription number
OBI	Oracle Bone Inscription (= *jiaguwen* 甲骨文)
OC	Old Chinese
Ph	phonophoric = phonetic component
QS	Qin Seal script form (= 'Small Seal script') in *Shuowen Jiezi*
R	Received version as in *Zhouyi Zhengyi* 周易正義 by Wang Bi 王弼 (Wei dynasty) and Kong Yingda 孔穎達 (Tang dynasty) in *Shisanjing Zhushu* 十三經注疏 by Ruan Yuan 阮元 (Qing dynasty); reprint, Li Xueqin 李學勤 et al. ed., 2000.
S	signific = semantic component
S.A.	Spring and Autumn period (771- 481 BCE)
SHD	Shuihudi manuscripts (*Shuihudi Zhujian* 睡虎地竹简, Shuihudi Qin mu zhujian zhengli xiaozu, 1990, Beijing: Wenwu), *Shuihudi Qin jian Wenzi bian* 睡虎地秦簡文字編 (Zhang Shouzhong 1994)
Shisanjing Zhushu	*Shisanjing Zhushu* 十三經注疏 by Ruan Yuan 阮元 (Qing dynasty); reprint, Li Xueqin 李學勤 et al. ed., 2000.
SP	Signific-Phonophoric compound character
SS	synonymous signific
str. (no.)	strip serial number of a manuscript as arranged in the primary publication
SHZY	Shanghai Museum "Zhouyi 周易" manuscript in Ma Chengyuan ed., 2003,11-70 and 131-260.
W.S.	Warring States period (481-221 BCE)
W. Zhou	Western Zhou period (1045-771 BCE)
x	Undeciphered character or 'the character at issue' marked as an undeciphered character for the p

1 Introduction

1.1 Goal of the study

When a bamboo-strip manuscript from the Warring States period finds a closely matching received text, the textual variants between the two versions consist in graphic variants in the majority of cases: they are pairs of character forms in matching textual positions identified as standing for the same words while differing with each other in graphic shape or in the graphic elements contained in them. In the latter case, the judgment that they stand for the same word despite differences in their character structure is based on the fact that they exhibit some sort of phonological relation. And this relation is indicated by (a) the two characters share a graphic component that apparently plays a phonetic role while they have different semantic components conventionally referred to as 'classifiers', or one of the two lacks a second component altogether; (b) the two characters have distinct phonetic components and yet the words that they normally stand for, when they are read as their structurally coincident characters in the received orthography, are phonetically similar. When the whole character in a manuscript does not find a structurally compatible form in the received script, its apparent phonetic component alone is compared with the matching received counterpart. The status of phonetic compatibility is the same whether a part or whole of a manuscript character is compared since words that share the same phonetic component are presumed to have similar pronunciations.

In fact this type of 'phonologically related textual variants' as it may be called, is a very common type of variation not only in manuscripts in relation to their received counterparts but also in different versions of received early texts. When pairs of textual variants suggesting a phonological relation occur repeatedly with certain patterns such as the (a) and (b) above, it is reasonable to assume that a single common word lies behind those different character forms.

The discrepancy between the apparent word represented by a character in a text version and the word the latter actually stands for is conventionally explained as a phonetic loan in traditional exegetic terms. This is to say that a character that normally stands for a certain word is borrowed for another, phonetically similar character. The former is called a loan character (tongjiazi 通假字) in relation to the latter, which is itself called the proper character (benzi 本字). In the case of a manuscript with its received counterpart, the characters in the latter usually serve as the point of reference. In other words, the characters in the received version are taken as the proper characters for the text-interpretation purposes.

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The anachronism of this notion 'loan' versus 'proper' is apparent because the norms of the received orthography in some cases may postdate a given text version with character usages that are at odds with the latter. The character forms in manuscripts produced during the Western Han or earlier could not be justly ruled as graphic substitutes for the standard forms established later, for example, as late as the early Eastern Han period (CE 25–220). What is perhaps more significant in the scope of influence than the writing conventions that came about during the Eastern Han period would be the existence of regional variations in pre-imperial times. The foundation of the norms in the received script was laid during the Qin dynasty (221–206 BCE) when the script of the pre-imperial Qin state, a regional variety of the Warring States script, was adopted as the standard for the unified empire. And so designating characters in manuscripts from the Chu region of the Warring States period as 'loans' in relation to the received script would be tantamount to judging one regional script by the standard of another regional script. For these reasons, scholars dealing with Warring States manuscripts tend to refrain from actually calling manuscript characters as tongjiazi and instead to simply describe the apparent phonological relation (and its implication on the word interpretation) as one manuscript character being 'interchangeable with' or 'an alternating form in relation to' its received counterpart by which the word in question is interpreted.

The use of the term loan character and the application of its literal meaning are relatively popular in studies of manuscripts of Western Han or later periods, as the character forms in these sources most of the time find structurally coincident forms in transmitted literature, i.e., the character forms themselves do exist in the latter unlike the case of Warring States manuscripts, and so it would appear that those odd characters are used despite the existence of the same proper forms as the ones in the received orthography. However, manuscripts dating from early phases of the Western Han period may also for their part preserve early character usages and pre-imperial regional forms. In other words, the rarity in Western Han manuscripts of unknown character forms coupled with odd character usages in comparison with the received standard perhaps suggests that the script of the early Western Han had just become fairly close to the received standard rather than that it had become exactly the same as the latter, and yet it had the practice of using odd forms from time to time. These differing interpretations of the tongjia phenomenon have more serious impact in phonological studies than in exegetical studies.

Characters in the Warring States script are apparently versatile in their graphic forms and structures in comparison with the received script. The appar-

ent freedom in classifier variation and the frequent occurrence of phonetic components that are distinct from the received characters and yet phonologically related to the latter, give the impression that different characters standing for different words are substituted for one another, even if the standard around which these graphic variants are arrayed is not necessarily the same as the received orthography. But free selections among characters for (near-) homophonous words in any case would increase ambiguity and thus diminish the efficacy of written communication. It does not seem reasonable to assume that the users of the early Chinese script were able to communicate more effectively than the people of the present time if there existed such a practice of replacing one character with another, say, ten to twenty percent of the time. It ought to be assumed that the script itself of a given time and place in pre-imperial China was just as effective and unambiguous as the received script. Likewise, we shall not assume on the basis of the apparent discrepancies in character forms between different manuscript versions of the same text that the degree of reinterpretation or misinterpretation of individual scribes in the course of text reproduction and transmission in pre-imperial times was much greater than that in the Han and later periods.

I will argue that there existed in the Warring States script a set of rules that governed character variation, and at the same time the scope of variation was narrowed down to a manageable size by the conventions of a given time and place. The 'rule' implies a certain degree of predictability, unlike the 'convention' which is agreement in individual cases by the users of the scripts. But in practice these two are not separable; it is usually the case that forms that are conventionalized, i.e., those actually occurring, are a subset of theoretically possible options. The goal of this study is to explicate the nature of the rules of variation and to present cases of systematic graphic variation through the Shanghai "Zhouyi" manuscript as a representative example of writings of the Warring States period. The results of this study will have further implications on phonological and textual studies of early manuscripts from the Warring States to early Han period in general.

1.2 Subject materials

The particular manuscript text Shanghai Museum "Zhouyi" (SHZY hereafter) is chosen as the main subject material for this study because of the formulaic structure of text units in the *Zhouyi* 周易, viz., hexagram chapters which contain numerous repeated words which constitute divinatory idioms, line headings and hexagram theme words. Thus this text gives us a good glimpse of the extent of graphic variation in the early script of a single time and space. The words and

graphic forms in SHZY are explored in two ways. On the one hand patterns of graphic variations are identified through repeated characters/words which present little problem in interpretation, and on the other hand non-repeated and relatively less straightforward written forms are interpreted on the basis of the observed patterns of graphic variation. The written forms in SHZY will be discussed from the perspective of the Warring States script as a historical phase of the early script and also from the perspective of the Chu regional script. Diachronic and synchronic, region-internal and cross-regional comparisons will be made through the following categories of source materials.

(i) The Chu script: The graphic forms and patterns of graphic variation in the "Zhouyi" manuscript are expected to be consistent with those in contemporaneous manuscripts from the same region. Since 1950s there have been over twenty manuscript discoveries in the region of the ancient Chu state, around the modern provinces of Hubei, Hunan and Henan. Of these manuscript corpora, ones that are published and thus relatively well known are the manuscripts of Xinyang 信陽 (discovered in 1957), Wangshan 望山 (1965), Baoshan 包山 (1987), Jiudian 九店 (1981–1989) and Guodian 郭店 (1993).[1] The contents of Warring States Chu manuscripts were mainly catalogues of burial goods or objects pertaining to funerary processions, records of divinations and sometimes also administrative and legal documents, until the discovery of the Guodian manuscripts in 1993, which consist exclusively of literary texts. Because of its literary contents, the Guodian corpus in particular contains abundant data for comparisons of written forms for the words in SHZY. Chu bronze inscriptions of the Eastern Zhou period (771–256 BCE) are supplemented to Chu bamboo text sources.

(ii) Other regional scripts as seen from excavated texts: SHZY Chu character forms are compared with their counterparts in other regional scripts based on the 'Five region script system', which was first proposed by Li Xueqin 1959 and further developed by He Linyi 2003. Apart from Chu bamboo manuscripts which account for the majority of Warring States writings discovered thus far, materials from the Jin and Qin regions are relatively abundant. The Zhongshan Wang Cuo bronze inscription corpus, discovered in 1977, has over 2,400 characters in both elaborate and casual styles on inscriptions of varying degrees of prestige. This

1 The primary publications of these manuscripts are the *Xinyang Chu mu* 信陽楚墓 (Henan sheng wenwu yanjiusuo, 1986, Beijing: Wenwu), *Wangshan Chu jian* 望山楚簡 (Hubei sheng wenwu kaogu yanjiusuo and Beijing daxue zhongwenxi, 1995, Beijing: Zhonghua), *Baoshan Chu jian* 包山楚簡 (Hubei sheng jingsha tielu kaogudui, 1991, Beijing: Wenwu), *Jiudian Chu jian* 九店楚簡 (Hubei wenwu kaogu yanjiusuo and Beijing daxue zhongwenxi, 1999, Beijing: Zhonghua), *Guodian Chumu Zhujian* 郭店楚墓竹簡 (Jingmenshi bowuguan, 1998, Beijing: Wenwu).

body of materials nicely complements the bamboo strip manuscripts from the Chu region which is now the major source of the Warring States script, by virtue of representing a non-Chu regional script, viz., the Jin script, for our overview of the writings of the Warring States period.

(iii) *Shuowen jiezi* 說文解字: the 'Small Seal' script as recorded in the *Shuowen jiezi* (100 CE) by Xu Shen 許慎 is a transmitted source of the Qin script. The term *xiaozhuan* 小篆 'Small Seal', perhaps better translated as 'Lesser Seal', is the people of Qin's humble reference to their own traditional script in relation to the script of the Western Zhou period known at that time by a book called *Shi Zhou pian* 史籀篇, which they called the *dazhuan* 大篆 'Large Seal' ('Greater Seal'). Also, the Qin script was called 'Seal' script because by the time of the Qin unification this script had come to be reserved only for formal occasions such as inscribing seals, edict plates and stone steles while it was displaced by a new, simpler script style now called 'Qin clerical script' for daily use. Thus historically speaking, the 'Small Seal' script is in fact a regional variety of the Warring States script.

Xu Shen in his *Shuowen* also presented another variety of the Warring States script called the *guwen* 古文 'Old script'. The source of this script includes a body of Warring States manuscripts discovered in the Qi region some time during the mid-2nd century BCE (Early Han times). It was called 'Old' because it was an archaic script from the perspective of the Han clerical script, the current script at that time. Thus the 'Small Seal' script and 'Old script' are historically contemporaneous, and Xu Shen indicated their compatibilities and discrepancies by giving a *guwen* form only when the latter is different from its corresponding Seal form. The relation between these 'Old' and 'Small Seal' scripts often seems misinterpreted in studies of historical phonology, like the former as a historically earlier stage of the early writing system than the latter. When we examine the history of individual characters, some *guwen* forms may turn out to have originated from as late as the Warring States period, while their Seal form counterparts date from the Western Zhou period or earlier. The opposite cases are also expected to exist. We will discuss the nature of the Qin Seal script and its relation with the *guwen* script further in Section 1.4. The Qin Seal script as presented in the *Shuowen* and the recently excavated Shuihudi 睡虎地 Qin bamboo text corpus will be used as sources for examples of the Qin regional script in this study.[2]

2 The first primary publication of the entire Shuhudi Tomb no. 11 manuscripts is the *Shuihudi Zhujian* 睡虎地竹简 (Shuihudi Qin mu zhujian zhengli xiaozu, 1990, Beijing: Wenwu). This book contains an interpretive transcription of the manuscript texts, annotations and photographs of selected strips. There have been several more Qin manuscript discoveries since the discovery of

(iv) The script of the Western Zhou period (1045–771 BCE): the Western Zhou script represented by ritual bronze inscriptions is a direct ancestor of the Warring States script. Words attested in Western Zhou bronze inscriptions in most cases

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the Shuihudi manuscripts in 1975, but the latter remains the only completely published large body of Qin manuscripts to date. See for archaeological reports of other Qin manuscripts: "Qingchuan xian chutu Qin gengxiu tianlü mudu 青川县出土秦更修田律木牍" in *Wenwu* 1982.1: 1–21; "Gansu Tianshui Fangmatan Zhanguo Qin Han muqun de fajue 甘肃天水放马滩战国秦汉墓群的发掘" in *Wenwu* 1989.2: 1–11 and 31, "Tianshui Fangmatan Qinjian zogshu 天水放馬灘秦簡綜述" by He Shuangquan 何雙全 in *Wenwu* 1989.2: 23–31; "Jiangling Yangjiashan 135 hao Qin mu fajue jianbao 江陵扬家山 135 号秦墓发掘简报" in *Wenwu* 1993.8: 1–11 and 25; "Yunmeng Longgang Qin Han mu di yi ci fajue jianbao 雲夢龍崗秦漢墓第一次發掘簡報" in *Jiang Han Kaogu* 江漢考古 1990.3: 16–27; "Yunmeng Longgang Qinjian zongshu 雲夢龍崗秦簡綜述" by Liu Xinfang 劉信芳 and Liang Zhu 梁柱 in *Jiang Han Kaogu* 江漢考古 1990.3: 78–84; "Jiangling Wangjiatai shiwu hao Qin mu 江陵王家台十五号秦墓" in *Wenwu* 1995.1: 37–43; "Zhoujiatai 30 hao Qin mu fajue baogao 周家臺 30 號秦墓發掘報告" in *Guanju Qin Han mu Jiandu* 關沮秦漢墓簡牍 by Jingzhou shi Zhouliang yuqiao yizhi Bowuguan 荆州市周梁玉橋遺址博物館 (2001, Beijing: Zhonghua shuju); "Hunan Longshan Liye Zhanguo-Qin dai gucheng yi hao jing fajue jianbao 湖南龙山里耶战国—秦代古城一号井发掘简报" in *Wenwu* 2003.1: 4–35, and "Chu du Liye Qinjian 初读里耶秦简" by Li Xueqin 李学勤 in *Wenwu* 2003.1 : 73–81. There are also two large bodies of manuscripts that are not archaeologically excavated, but purchased on antiquities markets, which are presumed to be of Qin origin: one is, the Yuelu Academy Qin manuscripts acquired on the Hong Kong antiquities market in 2007 by the Yuelu Academy of Hunan University. The contents of these manuscripts are particularly similar to those of the Shuihudi manuscripts. See "Yuelu Shuyuan suocang Qinjian zongshu 嶽麓書院所藏秦簡綜述" by Chen Songchang 陳松長 in *Wenwu* 2009.3: 75–88; the other is the Peking University Qin manuscripts donated to the university in 2010 by a Hong Kong private foundation supporting Chinese studies which purchased the manuscripts from overseas markets. A series of seven articles on these manuscripts appeared in *Wenwu* 2012.6, which includes "Beijing daxue cag Qinjian shinei fajue qingli jianbao 北京大學藏秦簡室内發掘清理簡報" (32–44) and "Beijiing daxue cang Qin jiandu gaishu 北京大學藏秦簡牘概述" (65–73) both by Beijing daxue chutu wenxian yanjiusuo 北京大學出土文獻研究所. Qin manuscripts are often discovered in the same geographical region as Chu manuscripts, particularly in Hubei and Hunan provinces, but manuscripts from the two political spheres are clearly distinguished from each other in textual contents and script styles. Qin manuscripts are mostly legal or administrative documents and a hemerological and calendrical text-type often referred to as *rishu* 日書 'day book' (Note: There are different opinions as to the nomenclature of this kind of texts. See Li Ling 2008 and Xiao Congli 2011. The name "rishu" itself is found in a manuscript of such type in the Shuihudi manuscripts); they are written in the script style called 'Qin clerical' ("Qin lishu 秦隸書") or 'Old clerical' script ("Gu lishu 古隸書") comparable to the Clerical script (*lishu* 隸書) of Han times; Chu manuscripts on the other hand, consist mostly of catalogues of burial goods and objects used in funerary processions ("qiance 遣册"), records of divinations, and literary texts; Chu manuscripts are in the script style called 'Old script' ("Guwen 古文"), which is much closer to the 'Seal script'("Zhuanwen 篆文") found in inscriptional texts from Qin dynasty than the Qin clerical script is to the Seal script, except that in the orthography the Qin Clerical and Seal scripts are consistent with each other. See Section 1.4.2.

are also attested in Warring States manuscripts discovered thus far. Character forms in the former, in particular those from the mid-to-late Western Zhou period are often the earliest attestations of their corresponding Warring States forms and thus best demonstrate the historical developments in character forms and structures into their Warring States descendants.

Script evolution is continual, so the writings of the Spring and Autumn period (771–481 BCE) are like both the Western Zhou and Warring States scripts. The Western Zhou script regarded as a tangible earlier phase of the early Chinese script in relation to the Warring States script includes writings of the early Spring and Autumn period (S.A. hereafter), and likewise the Warring States script includes those of the late S.A. period. For presentation purposes, we will deliberately skip over forms from the middle part of the S.A. period; whenever possible, we will instead present forms from the actual Western Zhou and Warring States periods as representatives of the Western Zhou and Warring States scripts. Late S.A. character forms will be cited occasionally when they have features typical of the Warring States script. Ritual bronze inscriptions have formulaic text structures which were established in the early Western Zhou period and transmitted into the Eastern Zhou period across regions. We can compare variant forms for the same words repeated in these formulaic texts with their counterparts in the Warring States script. Comparisons of the Western Zhou and Warring States scripts will illuminate the nature of regional variation in the latter, and in particular the extent of regional peculiarity in the Chu script.

1.3 The Shanghai Museum “Zhouyi 周易” manuscript

The “Zhouyi” manuscript is included in the body of texts written on bamboo strips dated to mid-to-late fourth century BCE, collected and published by the Shanghai Museum with the title *Shanghai Bowuguan cang Zhanguo Chu zhujian* 上海博物館藏戰國楚竹簡 (9 vols, 2001–2012). In spring 1994, bamboo strips inscribed with archaic Chinese characters numbering over 1200 turned up in the Hong Kong antiquities market. These manuscripts, consistent in their physical forms and in the calligraphy of the inscribed characters turned out to be manuscripts of the late Warring States period (481–221 BCE) from the ancient Chu 楚 region. As sorted out by a team of scholars hosted by the Shanghai Museum, they consist of about a hundred distinct texts which are mostly of literary and philosophical kinds, the styles and contents of which are comparable with and familiar from transmitted early classical texts. Among these texts about ten texts actually find matching counterparts in received literature. In other words those manuscripts and their received counterparts in each case are close enough in wordings

with each other so that they can be regarded as different versions of a single original text. The "Zhouyi" is in such a relation with the transmitted *Zhouyi* or *Yijing*, *The Book of Changes*.

The script of this manuscript corpus agrees with the Chu regional script of the Warring States period. It is consistent with the script style of archaeologically excavated bamboo texts from the Chu region such as the Guodian 郭店 (Hubei Province, discovered in 1993), Baoshan 包山 (Hubei, 1987) and Wangshan 望山 (Hubei, 1965). It also agrees with the orthographic and calligraphic style in ritual bronze inscriptions from the Chu state as well as surrounding states generally considered to be within the Chu cultural sphere.[3] Further, the corpus contains some historiographical writings on the Chu state. By these indications the Shanghai Museum corpus is identified as consisting in manuscripts from the Chu region of the late Warring States period, presumably produced around 350 BCE.

The length of these bamboo strips ranges from about twenty-four to fifty-seven cm. The width on the other hand is fixed as about 0.6 cm. Each strip has two or three regularly spaced notches carved on the right edge for receiving binding cords. The cords themselves do not survive, having mostly decayed, with only their traces occasionally found on the flesh of the strips. This leaves the strips as they were initially found in disarray. The identification of distinct texts and the order of the strips within a text are the result of the Shanghai Museum scholars' editorial work based on comparable received texts and, often, of reasonable 'assignments'. The strip length as well as the number and spacing of binding notches are consistent within a single text, and this serves as a starting point for identifying parts of the same texts. Ma Chengyuan 馬承源 (1927–2004), the chief editor of the publication, notes in the foreword that Professor Li Ling 李零 of the Peking University by invitation of the museum in 1997 conducted the preliminary work of text identifications and transcriptions of the strips.

The Shanghai Museum "Zhouyi" (SHZY) is the earliest version of the *Zhouyi* text discovered so far. It consists of fifty-eight strips, which are about forty-four cm long and which have the three-way binding notches.[4] It includes about 1800 characters containing contents that match parts of thirty-five different hexagram

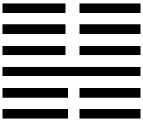
3 In the case of bronze vessels, the inscribed texts themselves usually bear the names of the caster and his or her home state, so that their places of origin can be known with certainty even when they are not archeologically excavated.

4 Li Ling (2006: 56) reports that in addition to these 58 strips, there is a broken piece containing four characters which was left out in the publication for some reason. Li provides the transcription for this strip. This study only includes the officially published 58 strips.

chapters in the received version.[5] Twelve chapters of these are complete. Each strip contains on average about forty-four characters, but the number of characters in a fully inscribed strip actually varies as widely as from forty-one to forty-nine. The top and bottom notches are about 1.2 cm apart from the tips and the middle notch comes about right in the center. The first character on each strip is written under the top notch and the last one above the bottom notch. Each hexagram chapter which takes up two or three strips starts with a new strip.

The structure and organization of the chapters in SHZY match precisely with the received version (R); the four parts in each chapter, viz., the hexagram figure (*guahua* 卦畫), hexagram title (*guaming* 卦名), hexagram statement (*guaci* 卦辭) and line statements (*yaoci* 爻辭) appear in the same order between SHZY and R. The hexagram figures of SHZY while matching with R in substance, i.e., the configurations of six solid or broken lines (*yangyao* 陽爻 and *yinyao* 陰爻), are notated as the combination of two trigrams instead of one hexagram. Also, the broken line is drawn like 八 or like the bottom part of 六 instead of an interrupted straight horizontal line. These features are shared by the two previously discovered Early Han manuscript versions of the *Zhouyi*, viz., the Mawangdui 馬王堆 silk manuscript (ca. 168 BCE, discovered in Hunan province, 1972) and the Fuyang 阜陽 bamboo strip manuscript (ca. 165 BCE, Anhui province, 1977).[6] Compare for example, the corresponding SHZY and R figures for the *Qian* 謙 (Hex.15).

vs.



5 By my own count, the total number of characters is 1794 when each of the physical forms of characters and the trigrams is counted as one character.

6 The citations of the Mawangdui silk manuscript in this study are based on the photograph reproduction of the manuscript in the article "Zhushu <Zhouyi>, Boshu <Zhouyi>, Jinben <Zhouyi> wenzi bijiao biao 竹書周易帛書周易今本周易文字比較表" in Ma Chengyuan 馬承源 ed. 2003, 21-250, as well as on the transcription in Zhang Zhenglang 1984. Those of the Fuyang bamboo "Zhouyi" manuscript is based on Han Ziqiang 2004 which has the authors' hand-copy and transcription of 752 fragments (ca. 3,119 characters). This "Zhouyi" manuscript contains divination records added to the original *Zhouyi* line texts. See Shaughnessy 2014 for a full translation.

The SHZY has special markers which were previously unknown. These are in eight distinct forms and are used apparently for a distinguishing function.[7] With few exceptions one and the same marker appears at the beginning and at the end of each hexagram chapter.[8] A series of different hexagrams are assigned with the same marker distinguishing itself from other groups of hexagrams likewise marked. The hexagrams are thus divided into at least eight different groups as seen from the surviving strips.

The markers contrast with one another by such distinctive features as color, shape and size: there are contrasts between black versus red, solid square versus empty frame, and relatively large versus small sizes etc. Below are the markers with our notations for them to be used in the summary table down below.

□ solid red ■ solid black, large ▪ solid black, small

◥▪ solid black, small, with a tail ▫ small black frame

◘ red with black around ▣ black with red around

⧈ small black frame overlapped by large solid red

SHZY hexagrams belonging to the same group as indicated by this marking in all cases match with consecutive hexagrams in the received *Zhouyi*. This fact combined with the relation between juxtaposed hexagrams leads us to suppose that the hexagram order of SHZY is identical with that of the received version.[9] The following table lists the contents of the surviving "Zhouyi" hexagram chapters.

Note: The Shanghai Museum editors' ordering of the strips nos.1 through 58 follows the order of their matching received counterparts. The < 0 > indicates that the strip or the part of a strip where a marker is expected does not survive. The < x > indicates that an expected marker is left out while the strip itself is present. The hexagram figure, abbreviated as < fig.> in the table, is always

7 The Shanghai Museum editors erroneously note that there are six distinct forms of markers (p. 2 of vol.1 and also p.134 of vol.3).
8 The precise position of the beginning one is between the hexagram title and the hexagram statement.
9 See Li Ling 2006, Shaughnessy 2006, 2014 and Park 2009 (7-11) for discussions on the SHZY hexagram order.

present as long as the strip itself is present. In other words a manuscript chapter without a hexagram figure is either missing the first strip or the top portion of it. There are twenty-five surviving figures in the manuscript. The number before a hexagram title is the chapter sequence in the received version. The SHZY character forms for the titles are given in square brackets when they are different from their counterparts in R.

Surviving Shanghai *Zhouyi* hexagrams

Hex. no. in R, title	Marker beginning, ending		Strip no. and no. of characters contained	Complete chapters ✓
4. *Meng* 蒙 [尨]	0	x	*1* (36)	
5. *Xu* 需 [孠]	□	□	*2* (45 + fig.), *3* (1)	
6. *Song* 訟	□	□	*4* (41 + fig.), *5* (43), *6* (4)	✓
7. *Shi* 師 [帀]	□	x	*7* (43 + fig.), *8* (33)	✓
8. *Bi* 比	□	□	*9* (44 + fig.), *10* (31)	✓
9. *Xiao chu* 小畜	0	0	unpublished, 4 characters[10]	
14. *Da you* 大有	0	■	*11* (21)	
15. *Qian* 謙 [壓]	■	■	*12* (31 + fig.), *13* (19)	
16. *Yu* 豫 [余]	■	■	*14* (43 + fig.), *15* (14)	✓
17. *Sui* 隨 [陵]	■	■	*16* (46 + fig.), *17* (33)	✓
18. *Gu* 蠱 [蛊]	■	0	*18* (46 + fig.)	
24. *Fu* 復 [逯]	0	0	*19* (7)	
25. *Wu wang* 无妄 [亡忘]	x	▪	*20* (30 + fig.), *21* (33)	
26. *Da chu* 大畜 [大笙]	▪	□	*22* (47 + fig.), *23* (15)	✓
27. *Yi* 頤	ˋ■	ˋ■	*24* (41 + fig.), *25* (39)	✓
31. *Xian* 咸 [欽]	□	◘	*26* (36 + fig.), *27* (14)	

10 As reported in Li Ling 2006, 56.

32. *Heng* 恆 [亙]	◘	◘	*28* (46 + fig.), *29* (8)	✓
33. *Dun* 遯 [豚]	◘	◘	*30* (44 + fig.), *31* (16)	✓
38. *Kui* 睽 [⿱癸木]	◘	◘	*32* (32 + fig.), *33* (31), *34* (8)	
39. *Jian* 蹇 [訐]	▣	▣	*35* (44 + fig.), *36* (11)	
40. *Jie* 解 [繲]	▣	0	*37* (44 + fig.)	
43. *Guai* 夬	0	▣	*38* (42), *39* (19)	
44. *Gou* 姤 [敂]	▣	▣	*40* (39 + fig.), *41* (36)	✓
45. *Cui* 萃 [啐]	▣	0	*42* (40 + fig.)	
47. *Kun* 困	0	▣	*43* (20)	
48. *Jing* 井 [汬]	▣	▣	*44* (41 + fig.), *45* (42), *46* (1)	✓
49. *Ge* 革	◘	0	*47* (41 + fig.)	
52. *Gen* 艮	◘	◘	*48* (36 + fig.), *49* (26)	
53. *Jian* 漸	◘	0	*50* (42 + fig.)	
55. *Feng* 豐	0	◘	*51* (42), *52* (15)	
56. *Lü* 旅 [⿺辶氏]	◘	0	*53* (43 + fig.)	
59. *Huan* 渙 [䆏]	⧈	⧈	*54* (45 + fig.), *55* (25)	✓
62. *Xiao guo* 小過 [少⿱化止]	0	◘	*56* (20)	
63. *Ji ji* 既濟 [既淒]	0	⧈	*57* (34)	
64. *Wei ji* 未濟 [未淒]	0	0	*58* (26)	

The texts of SHZY and R are also very close, taking the form of exact word by word correspondences in most cases. There is no significant portion of text in the surviving SHZY chapters that does not find a matching counterpart in R. The discovery of the SHZY Chu manuscript has thus shown that the text of the *Zhouyi* had been fixed before the 3rd century BCE in basically the same structure and content as what has come down to us. It shows in particular that first, the titles of the hexagram chapters consistent with those in R existed all along. To put it more

precisely, the names in SHZY are written in variant character forms that are suspected as standing for the same names as the ones in R. Second, it shows that the line headings which designate the position (first through sixth) and identity (either solid or broken) of a line in a hexagram also existed in the same structure. The sequence of the six lines proceeds from the bottom line to the top, designated as *chu* 初, *er* 二, *san* 三, *si* 四, *wu* 五 and *shang* 上 while the ‘solid’ versus ‘broken’ are notated as *jiu* 九 versus *liu* 六 respectively. In transmitted early texts such as the *Zuozhuan* 左傳 and *Guoyu* 國語, a hexagram line together with its assigned line statement is not referred to by the line heading, but instead by a pair of hexagrams whose figures differ from each other in the designated line. For example, the first (i.e., bottom) line of the *Zhun* ䷂ (Hex.4) is referred to as “*Zhun* zhi *Bi* 屯之比” ‘the *Zhun* [hexagram]’s *Bi* [line]’ by the fact that the hexagram *Bi* ䷇ (Hex.8) differs from *Zhun* in the bottom line while sharing with the latter the same five other lines.[11][12] So at the time when the Mawangdui early Han manuscript was discovered with the same line headings as R, it was thought that the

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11 *Shisan jing Zhushu* (1980 [2003]), “Chuqiu Zuozhuan Zhengyi 春秋左傳正義”, vol.2, p. 2051.
12 The phrase “hexagram A *zhi* 之 hexagram B” appearing in the *Zuozhuan* refers to the line in hexagram A that is different from the line in the same position in hexagram B, given the fact that hexagrams A and B differ only in one line. The meaning of the word *zhi* may seem to be problematic, because neither of the two homophonous words normally written by the graph 之, viz., *zhi* ‘to go’, and *zhi*, ‘possessive marker’, sounds perfectly fitting in this context. I think that this phrase in fact is well interpreted with the particle *zhi*, i.e., as ‘hexagram A’s the hexagram B’: the possessive particle indicates that the referent is something in hexagram A: it is ‘hexagram A’s something’, and that ‘something’ is said as ‘hexagram B’, which means in the context ‘the pertinent line with regard to hexagram B’. One might think that the verb *zhi* ‘go’ makes sense if it means ‘change’, as suggested in James Legge’s translation (n.d., preface dated 1872), since it is about the *Yi* 易 ‘(the Book of) Changes’. The reason the possessive particle *zhi* is preferable is that the phrase occurs as a noun phrase, often as an object of a verb, rather than as a full sentence. Consider “觀之否” ‘Hexagram Guan *zhi* Hexagram Fou’ in the line: 周有以周易見陳侯者陳侯使筮之遇觀之否 (*Zuozhuan*, “莊公 Zhuang gong 22”), which Legge translated as “…there came one of the historiographers of Chow to see the marquis of Chʻin, having with him the Chow Yih. The marquis made him consult by milfoil…, when he found the diagram Kwan [Guan], and then by the change of manipulations the diagram Pʻei [Fou]” (*ibid.*, 103), where 觀之否 ‘Hexagram Guan *zhī* Hexagram Fou’ is the direct object of the verb *yu* 遇 ‘encounter, find’. The particle *zhi* and verb *zhi* do not get confused with each other because of their distinct syntactic positions, and the *zhi* here does not appear syntactically ambiguous either. Note also that the possessive particle *zhi* has a nominalizing function which turns a subject- verb construction into a modifier -head one. This allows for the ‘hexagram B’ in the phrase ‘Hexagram A *zhi* Hexagram B’ to have a verbal meaning. When a noun (x) is used as a predicate, its meaning is usually ‘to have the quality of x’ or ‘to behave like x’, and the phrase with this function of *zhi* would mean ‘hexagram

headings came into existence as late as the 3rd century BCE (Shaughnessy 1993: 218). We now know that the line headings existed at least one century earlier and suspect that they perhaps existed still earlier.

Apart from the differences in the script, character usages and variant graphic forms, textual variations between SHZY and R usually occur as alternations of synonymous words. Some examples are: the word *qi* 啓 of SHZY corresponding to *kai* 開 of R both meaning 'initiate' (Hex.7); *shi* 是 'this' to *shi* 實 '(this) indeed' (Hex.63); *yi* 以 to *yong* 用, both meaning 'use' (Hex.48); *zu* 足 'foot' to *fei* 腓 'calf' (body parts) (Hex.52); *zou* 走 'run' to *ben* 奔 'hurry, flee' (Hex.63); *chu* 處 to *ju* 居, both meaning 'reside, stay home' (Hex.17 and throughout the repeated occurrences of this word). Also, SHZY has *bang* 邦 'state' matching with *guo* 國 id. of R (Hex.7 and 15), for which we know for sure that the latter is a later change made to avoid the name of the first Han emperor, Liu Bang 劉邦 (r. 202–195 BCE).

Another pattern of variation appears in the textual positions for what may be called 'divinatory idioms', a peculiar feature of the *Zhouyi* as a book originally composed as a diviner's manual. There are two types of such idioms. One of them designates auspiciousness or inauspiciousness of various levels in the prognostication for an event divined about. Some examples of these are: *zhen ji* 貞吉 'it is a prognostication of auspiciousness' (literally 'ascertained auspicious'), *zhen lin* 貞吝 '~ of adversity', *zhen li* 貞厲 '~ of danger', *zhen xiong* 貞凶 '~ of disaster', *you hui* 有悔 'there will be regrets', *wu hui* 无悔 'no regrets', *hui wang* 悔亡 'regrets will be gone', *wu jiu* 无咎 'there will be no faults', *wu bu li* 无不利 'there will be nothing unbeneficial'. The other kind tells of advisability or timeliness of certain actions that potentially involve perils such as fording a big river, being in an offensive or defensive mode in military oppositions, meeting with a man of influence: e.g., [*bu*] *li she da chuan* [不]利涉大川 'it is [not] beneficial to ford a big river', *li jian da ren* 利見大人 'it is beneficial to meet with a great man', [*bu*] *li wei kou* [不]利為寇 'it is [not] beneficial to launch an attack', *li yu kou* 利禦寇 'it is beneficial to ward off an attack'.

SHZY and R are often different in the presence and absence of some of these idioms. The expressions prefixed with *zhen* 貞 also occur without the latter in the received *Zhouyi*, and the two versions often vary in the (non-) occurrence the *zhen* 貞 before the shared core words. Less frequently, one idiom alternates with another one. For example, SHZY has 利見大人 in one place where R has 利貞 (Hex.59) and the former has 亡不利 in another place where the latter has 貞吉

A's having the quality of (or behaving like) hexagram B', which is exactly the meaning that one would like to get at by re-interpreting the verb *zhi* 'go' as 'change into'.

(Hex.8). The *Hanshu* catalogue of the imperial library collection says that the *jinwen* 今文 version often lacks 无咎 and 悔亡 which are present in the *guwen* 古文 version (Chapter 30 "Yi wen zhi", 1704). In the case of SHZY and R, the variation does not show any sign of systematic editing or any sort of progression. Those expressions simply fluctuate between the two versions. In addition there is some variation in the presence or absence of grammatical function words. The two words *zhi* 之 'it, them' and *er* 而 'then, and yet' occasionally fluctuate between the two versions, and there is one case where SHZY lacks the word *qi* 其 'its' that is present in R (Hex.31). It is significant to note that none of these types of lexical variations results in substantial discrepancies between the two versions in the overall content and structure of the text.

1.4 The *Shuowen jiezi* in the light of the Warring States manuscripts

1.4.1 Three archaic scripts, *xiaozhuan*, *guwen* and *Zhouwen*

Xu Shen 許慎 in his *Shuowen jiezi* 說文解字 (100 CE) dealt with three different phases of the early Chinese script: (i) the script of the pre-imperial Qin state, which has been referred to as the 'Small Seal' script since the Qin unification, (ii) the script known from Warring States manuscripts discovered or collected in the early Han period, which from that time on has been called the *guwen* 'Old Script' and (iii) the script represented by a work of the late Western Zhou period, the *Shi Zhou pian* 史籀篇, *Book of Scribe Zhou*. These three are referred to as *zhuanwen* 篆文 'Seal Script' (and also *xiaozhuan* 小篆 'Small Seal'), *guwen* 古文 and *Zhouwen* 籀文 (and also *dazhuan* 大篆 'Large Seal') respectively in the *Shuowen*. Xu Shen gives the Small Seal script form (better referred to as Qin Seal to clearly indicate its origin) as the heading of each entry and adds a *guwen* or *Zhouwen* form or both when these are distinct from their Qin Seal equivalent. The *Shuowen* is thus comprised of ca. 9350 entries headed by Qin Seal forms together with records of ca. 480 *guwen* and ca. 220 *Zhouwen* forms.[13]

If we simply judge by the numbers of character forms appearing in the *Shuowen* entries, the occurrences of the *guwen* and *Zhouwen* scripts would seem sparse and secondary to the Qin Seal script. The apparent preponderance of the Qin Seal script may in part be due to the availability of source materials. But what

13 The number of the Seal forms is after Ma Xulun (1970: 2), the *guwen* after Zeng Xiantong (1982: 276), and the *Zhouwen* after Wang Guowei (1976: 8).

is more significant is that Xu Shen did not intend to record all the *guwen* or *Zhouwen* forms which he had sources for, but instead tried to synthesize the three scripts, to represent what is common among them, and took the Qin Seal script as typical. Xu Shen explained in the postface: 今敘篆文以合古籀 “In the present [study], I will lay out the Seal Script so as to match it with the *guwen* and *Zhouwen* scripts (15a/763).”[14] In other words, Xu Shen regarded the three scripts as variant reflections of a single early writing system: an analysis of a Qin Seal form in the *Shuowen* is tantamount to an analysis of all forms. Consider the following *Shuowen* entries containing a *guwen* or *Zhouwen* or both forms.

一 惟初大極. 道立於一. 造分天地. 化成萬物. 凡一之屬皆从一.

弌古文一.

一 (the word *yi*) means ‘unique, initiative, great, ultimate’. The Way is established on the ‘one’. [‘One’] creates the division between heaven and earth; it transforms

14 Duan Yucai (1735-1815) in his *Shuowen jiezi zhu* 說文解字注 elaborated the meaning of this brief statement as follows:

> 篆文謂小篆也, 古籀謂古文籀文也. 許重復古而其體例不先古文籀文者, 欲人由近古以攷古也. 小篆因古籀而不變者多, 故先篆文正所以說古籀也. 隸書則去古籀遠, 難以推尋. 故必先小篆也. 其有小篆已改古籀. 古籀異於小篆者則以古籀駢小篆之後, 曰古文作某 籀文作 某. 此全書之通例也 (15a/763-64).
>
> ‘Zhuanwen’ refers to the Small Seal script. ‘Guzhou’ refers to the *guwen* and *Zhouwen* scripts. The reason Xu Shen did not set the presentation format to give *guwen* and *Zhouwen* characters first while repeatedly emphasizing the archaic scripts is that he wanted people to take as a starting point what is near archaic to examine the archaic. Since Small Seal forms in many cases have not changed from *guwen* or *Zhouwen* characters, so (Xu Shen) by putting the Small Seal script first as a point of reference explained the *guwen* and *Zhouwen*. Clerical script is distant from the *guwen* and *Zhouwen*, so it is difficult to infer the last two from it. Thus Xu Shen should have had to put the Small Seal first. How could he presumptuously alter the *guwen* and *Zhouwen* on the basis of the Small Seal! (H. Park: This comment seems to allude to a possible misinterpretation of the phrase 今敘篆文以合古籀) When a given *guwen* or *Zhouwen* form is distinct form its Seal form counterpart, Xu Shen appended the *guwen* or *Zhouwen* form after the Seal form saying, ‘the *guwen* form is rendered such and such’, or ‘the *Zhouwen* form is rendered such and such’. This format is generally followed throughout the book.

and completes the myriad things. In general words [whose meanings can be] classified under the category of 'one' are written with the component 一. is a *guwen* form for 一 (1a/1).[15]

以盛民也, 从土成. 成亦聲. 籀文城从𩫖 .

城 (the word *cheng* 'protective wall') is that by which the citizens are contained. [The Seal form] is composed of 土 'ground' and 成 'accomplish'. The latter is also the phonetic component. is a *Zhouwen* form for 城, which has the component 𩫖 instead (13b/ 688).

等量物也, 从刀貝. 貝古之物貨也. 古文則, 籀文則, 从鼎.

則 (the word *ze*) means 'object for measuring quantity'. [The Seal form] is composed of 刀 'knife' and 貝 'cowrie shell'. The latter denoted the meaning 'material value' in ancient times. is a *guwen* form for the character 則, a *Zhouwen* for 則. It has the component 鼎 instead (4b/179).[16]

1.4.2 The *xiaozhuan* 'Small Seal script' as a regional variety of the Warring States script

The name 'Seal Script' (篆文) refers to the use of this script for the formal purpose of making seal inscriptions. As Xu Shen used it, on the one hand this term reflects the situation of Xu Shen's own time, during which the former dynasty's script was preserved as an artistic calligraphic style used for inscribing seals. At the same time the term tells something of the nature of the source materials that Xu Shen had access to. It is known since the discovery, in 1975 of the Shuihudi 睡虎地 (Yunmeng 雲夢 county, Hubei Province) bamboo and wood tablet texts, consisting of Qin legal and administrative documents dating from the mid-3rd century BCE, that a script type distinctively simpler in style than the Qin Seal script had

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15 The form 弌 is attested in a bronze inscription from the Qi state of the late S.A. period (ca.500 BCE). ("Genghu 庚壺", JC 9733). We also find the form (Qiong 14) in excavated Warring States Chu manuscripts. The two graphs 弋 'staff' and 戈 'halberd' are often confused (CWZ: 11).

16 The Chu script form (Yu-3, 28) consisting of 鼎 and 刃 (interchangeable with 刀) preserves the old structure. Compare a late Western Zhou form (散盤). The Qin form diverges from the latter in substituting the 鼎 by a simpler and graphically similar component, 貝. But simplified variants in which the original component 鼎 is obscured also existed in the Chu script: (Cheng 9) and (Zi 31).

been fully developed by that time in Qin. This simpler script approaches the form of the Han clerical script, with the curling and flaring lines that were characteristic of the early Chinese writing turned into straight strokes. In this script we also find the emergence of the precursors of 氵 and 忄, the reduced allographs of 水 and 心 respectively.[17]

心 思 懷 水 河

Shuihudi

Qin Seal

This script, represented by the Shuihudi manuscript corpus, is thus referred to as the Qin clerical script. The Qin Seal script on the other hand appears in such Qin dynasty artifacts as official seals, stone steles, edict plates and standard measurement vessels. Based on this distribution we presume that by the late Warring State period the Qin Seal script in the Qin state was reserved for epigraphic use while it was superseded by the Qin clerical script for everyday use.

Xu Shen suggests in his postface that he had at his disposal as sources of the Seal Script a series of three books, viz., the *Cang Jie pian* 倉頡篇, *Yuanli pian* 爰歷篇 and *Boxue pian* 博學篇.[18] These books were compiled during the Qin dynasty for the purpose of script standardization:

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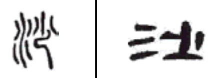
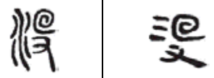
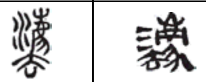
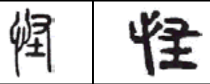
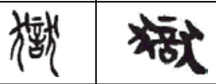
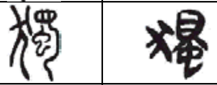
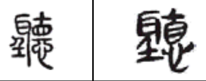
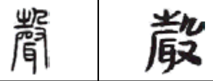
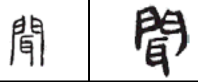
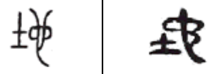
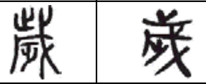
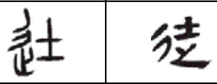
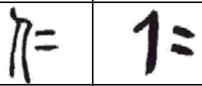
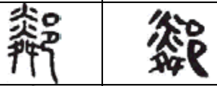
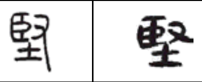
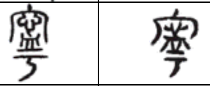
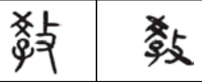
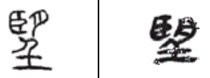
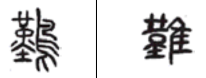
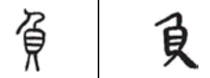
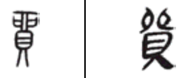
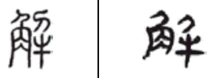
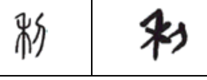
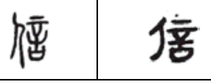
17 All Shuihudi Qin manuscript forms cited in this study are from *Shuihudi Qin jian Wenzi bian* 睡虎地秦簡文字編 by Zhang Shouzhong (1994).

18 Ban Gu under the listing of "*Cang Jie yipian* 倉頡一篇" in the "Yiwenzhi" chapter notes that a certain "lüli shushi 閭里書師" ('village school teacher') after the rise of the Han combined the three *pian* of *Cang Jie*, *Yuanli* and *Boxue* to make one book titled *Cang Jie pian* in fifty-five chapters (*zhang*), each chapter with sixty characters (*Hanshu* 30.1721). Several manuscripts of Han dynasty versions of the *Cang Jiepian* have been found, in all cases in Han clerical script (see Sun Shuxia 2013). Among them, one in particular, found at Fuyang, is a redaction based on the Qin dynasty version of the work. See Hu Pingsheng 胡平生 and Han Ziqiang 韓自強, "Cang Jie pian de chubu yanjiu" <倉頡篇>的初步研究, *Wenwu* 1983.2: 35-40; Fuyang hanjian zhenglizu 阜陽汉简整理组, "Fuyang Hanjian Cang Jie pian" 阜陽汉简仓颉篇, *Wenwu* 1983.2: 24-34; Gansu Juyan kaogudui 甘肅居考古队, "Juyan Handai yizhi de fa jue he xin chutu de jiance wenwu" 居延汉代遗址的发掘和新出土的简册文物, *Wenwu* 1978.1: 1-25.

> 始皇帝初兼天下. 丞相李斯奏同之. 罷其不與秦文和者. 李斯作倉頡篇, 中車府令趙高作爰歷篇, 大史令胡母敬作博學篇, 皆取史籀大篆或頗省改. 所謂小篆者也(15a/758).
>
> The First Emperor for the first time unified the empire. Chancellor Li Si assisted him in achieving the unification. [On this event] they abolished those which do not agree with the Qin script. Li Si compiled the *Cang Jie pian*, Director of Mid-carriage Treasury Zhao Gao compiled the *Yuanli pian* and Director of Grand scribes Humu Jing compiled the *Boxuepian*; for all these they took the characters from the *Shi Zhou* in the Large seal script in some cases simplifying the forms. This is so called the Small seal script.

What constitutes the identity of the Qinwen 秦文 'the Qin script' in the context of "abolishing those which do not conform with the Qin script", i.e., standardization by the norms of the Qin script, becomes clear when we compare the Shuihudi Qin manuscripts (SHD) with the Qin Seal (QS) script. In nearly all cases, the character forms in these two Qin script sources agree with each other in their structure. Exceptions to this structural congruency fall into three categories. In such cases as QS for the word *jì* 祭 'sacrifice' varying with SHD and QS for the word *zàng* 葬 'burial' with SHD , the differences involve classifier variations, viz., 又 '(right-)hand ~ 攴 'treat' and 艸 'grass' ~ 竹 'bamboo', which are routinely observed in the writings of the Warring States period. But even the characters with such freely varying classifiers are consistent between the QS and SHD most of the time. There are a handful cases of simplification, QS for *xué* 學 'learn' appearing in a simplified variant SHD without the component 攴, and the QS form [䢽] for *xiàng* 巷 'alley' reduced to SHD [巷] . Apart from those cases of simplification and predictable classifier variation, we find a couple of significant variants, QS for *yě* 野 'wild' contrasting with SHD [壄] and QS for *tǐ* 體 'structure' with SHD [軆] . Li Si and others would have used their judgment to select the forms to register as the standard in cases such as these. The congruency between the two different Qin script sources is demonstrated in the following examples.

Structural congruency between the Qin Seal and *Shuihudi* Qin manuscript forms

Word	Qin Seal	Shuihudi	Word	Qin Seal	Shuihudi
shā 沙 'sand'			*mò* 沒 'sink'		
fǎ 法 (灋) 'law'			*yǐn* 飲 'drink'		
guài 怪 'odd'			*huái* 懷 'embrace'		
yù 獄 'jail'			*dú* 獨 'alone'		
tīng 聽 'lis-ten'			*shēng* 聲 'sound'		
wén 聞 'hear'			*dì* 地 'ground'		
suì 歲 'year'			*tú* 徒'fol-low'		
móu 謀 'plot'			*bài* 敗 'de-feat'		
rén 仁 'hu-mane'			*lín* 鄰 'neighbor'		
jiàn 堅 'firm'			*níng* 寧 'peace'		
jiāo 教 'teach'			*wàng* 望 'look afar'		
nán 難 'difficult'			*fù* 負 'lia-ble'		
mào 貿 'trade'			*jiě* 解 'loosen'		
lì 利 'profit'			*xìn* 信 'trust'		

The character structures of the Qin script underlying the QS and SHD forms differ from those of the Chu script in a number of cases. Among the items presented above, the Chu versions have different character forms in the cases below. In this part of the discussion we define the Chu character structure by a dominant character form attested several times over different manuscript corpora discovered in the Chu region, with occasional variants set aside. The manuscript examples are taken from the *Guodian Chumu Zhujian* 郭店楚墓竹簡.

Orthographic variation between Qin and Chu scripts

word	Qin script	Chu script	Chu ms forms
wén 聞 'hear'	聞	䎽	(Yu-4, 24)
dì 地 'ground'	地	𡍚	(Qiong 5)
suì 歲 'year'	歲	𢧦	(Tai 4)
tīng 聽 'listen'	聽	聖	(Yu-1, 50)
tú 徒 'follow'	徒	𨑹	(Wu 17)
móu 謀 'plot'	謀	𢘅	(Yu-3, 31)
bài 敗 'defeat'	敗	贁	(LZ-C, 12)
rén 仁 'humane'	仁	𢖳	(Yu-1, 82)
lín 鄰 'neighbor'	鄰	𠫤	(LZ-A, 9)

In sum, the Qin Seal script as represented in the *Shuowen jiezi*, based on sources from the Qin dynasty is the traditional script from the point of the Qin dynasty, which reflects the regional script of the Qin during the Warring States period.

1.4.3 The identity of the *Zhouwen* 'Script of Scribe Zhou' and *guwen* 'Old script'

The *Shi Zhou pian*, the source of the *Shuowen*'s *Zhouwen* 籀文 is said to have been compiled at the time of King Xuan 宣 (r. 827 – 782) of the Western Zhou in both the *Hanshu* bibliography and *Shuowen*. Ban Gu (CE 32–92) notes that the Grand Scribe Zhou 籀 compiled the book in fifteen chapters intended to be used as a children's textbook, nine of which were lost during the Jianwu 建武 period (CE 25–57).[19] Locating the figure "Scribe Zhou" in the late Western Zhou history was problematic as neither the *Shiji* nor *Hanshu* provides a clear record for this. Only with the bronze vessel 𧾱 鼎 "Ma (?) ding" inscription, first published in 1982, do we get primary textual reference to the name (Chen Zhaorong 2003: 17 – 19). This bronze inscription, dated to the nineteenth reign year of King Li (ca. 860 BCE) who is the father of King Xuan, records an official scribe's name written as [史留].[20] The graphic connection of the latter with the 史籀 "Shizhou" can be hardly dismissed as a coincidence.[21] Chen Peifen (1982: 19) who first noted the significance of this name "史留" in connection with the *Shi Zhou pian* adds that since the reign of King Xuan began some thirty years after the nineteenth year of King Li, it makes sense that Scribe Zhou was promoted to the position of grand scribe by that time.

It is implicitly suggested by the presentation of the *Shuowen* that the late Western Zhou script as represented by the *Shi Zhou pian*, a work of the late ninth century BCE, was transmitted largely in its original style down to the Warring States period. We can confirm through Western and Eastern Zhou bronze inscriptions in comparison with discovered Warring States bamboo texts that this is in

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19 *Hanshu* 30.1719 and 1721.

20 The inscription reads: 隹 (唯) 十又九年四月既望辛卯. 王才 (在) 周康邵 (昭)宮. 各(格)于大室. 即立 (位).宰訊右𧾱入門立中廷. 北卿 (嚮) 史留受王令書... (JC 2815) "It was the nineteenth year [of the King], fourth month and declining brightness (i.e., the third week), *xinmao* day. The King was at Kang Zhao temple. He arrived at the grand Hall and assumed the position. Minister Xun and Minister on the Right Ma (?) stood in the center of the courtyard. Facing north, Scribe Zhou received the king's edict".

21 The modern Chinese reading *zhòu* follows the Middle Chinese sound gloss to the word by Yan Shigu 嚴師古 in his commentary to the *Hanshu*: 籀音冑 "籀 is read 冑 (*zhòu* < MC *drjuwH*) (p. 1720). This MC reading is strange because the character 留 contains 卯 as its phonophoric which suggests a syllable type *(**m)-ru** : Cf. 卯 *mǎo* < *mræwX* <***mmru?** '4th of the earthly branch' and 留 *liú* < *ljuw* < ***ru** 'stay'. However, whether we read the character 籀 like *liu* or *zhou* is irrelevant to the fact that the bronze form 留 in question can be identified with the 籀. I will keep using the traditional reading *zhòu*, since it is the identity of the book and author's name "史籀" that is at issue here.

fact quite true. Also, several of the *Zhouwen* forms cited in the *Shuowen* are attested in sources as late as Warring States Qin inscriptions, such as the 詛楚文 "Zu Chu wen" (ca. 312 BCE)[22] and in recently discovered Chu bamboo texts from ca. 350 – 300 BCE (He Linyi 2003: 37 – 39). Recall that *Zhouwen* forms are given only when they are different from the Qin Seal or *guwen* forms. This suggests that the character forms in the *Shi Zhou pian* that struck Xu Shen as distinct from Qin Seal forms or *guwen* forms based on his sources in fact often remained in use as variant forms in various regional scripts of the Warring States period.

Xu Shen's major source of the *guwen* script characters was a collection of manuscript copies of early texts including the *Shangshu* 尚書, *Liji* 禮記 and *Chunqiu* 春秋 which, according to an account of Xu Shen's time, repeated in Han time sources such as the *Hanshu* (ca. CE 82) and *Lunheng* 論衡 by Wang Chong 王充 (CE 27–97?), were discovered at the old home of Confucius in the palace area of Prince Gong of Lu (d. 130 BCE).[23]

22 See He Linyi (2003, 36-37) and Chen Zhaorong (2003, 25-33) for comparisons of the *Shuowen Zhouwen* forms with forms in materials from the Qin and other regions.

23 *Hanshu* 30.1706 and *Lunheng*, "Zhengshuo 正說" (p. 552 in the *Lunheng jije* edited by Liu Pansui [1957]).

Sima Qian (ca. 145-ca. 86 BCE) in his *Shiji* says: 孔氏有古文尚書, 而安國以今文讀之, 因以起其家 (*Shiji* 31.3125) "the Kong family possessed the *Shangshu* in the archaic script, and Anguo (ca. 156–74 BCE) read it by using the current version. He thereby started his own school of interpretation". This line comes in a passage on the Confucian scholar Fu Sheng 伏生 (fl. 289–179 BCE) who brought a pre-imperial edition of the *Shangshu* back to circulation after the turmoil of the great Qin book burning. Fu Sheng, who was native of Jinan served as an erudite (博士) in the Qin dynasty. He hid his copy of the *Shangshu* in the wall of his house. After the rise of Han, he was able to retrieve only twenty nine chapters, with more than ten chapters having been lost. He taught this *Shangshu* version in his hometown Jinan area, and Kong Anguo studied with one of Fu Sheng's disciples' disciples. Anguo at that time attained the *guwen* version of the *Shangshu* that was held by the Kong family, read it comparing it with the current version, and obtained over ten chapters that are not found in the latter (ibid).

Sima Qian simply says that the Kong family had a copy of *guwen Shangshu* and does not relate this fact with a historical event or discovery. We find a clue to this curious contrast between the Later Han account and this Early Han historian's record in the chapter 六國年表 "Liuguo nianbiao" (Chapter 15) where Sima Qian explains his sources of the Warring States period history.

> 秦既得意, 燒天下詩書, 諸侯史記尤甚, 為其有所刺譏也, 詩書所以復見者, 多藏人家, 而史記獨藏周室, 以故滅. 惜哉, 惜哉! 獨有秦記, 又不載日月, 其文略不具... 余於是因秦記, 踵春秋之後, 起周元王, 表六國時事, 訖二世, 凡二百七十年, 著諸所聞興壞之端 (15.686-87).

> 壁中書者魯恭王壞孔子宅而得禮記, 尚書, 春秋, 又北平侯張蒼獻春秋左氏傳. 郡國亦往往於山川得鼎彝, 其銘即前代之古文皆自相似. 雖叵復見源流其詳可得略說也 (15a/ 757–761).
>
> As for the texts from the wall of Confucius's home, Prince Gong of Lu had Confucius' home torn down and [unexpectedly] obtained the *Liji*, *Shangshu* and *Chunqiu*. Subsequently, Zhang Cang, the lord of Beiping, presented the *Zuo Commentary of Chunqiu* [written in *guwen*]. Also ding-cauldrons and other sorts of ritual vessels were found occasionally in the mountains and valleys everywhere, inscriptions on which were all similar to the previously known *guwen* script. Even though we can no longer see the origin of the *guwen*, we can still give a rough explanation for it.

This note clearly shows that the *guwen* as presented in the *Shuowen* is a system of archaic script that accounts for the discovered *guwen* texts as well as other literary texts or bronze inscriptions collected during Early Han times. Xu Shen distinguished specific facts of the *guwen* script that he could see through the character forms extant and available to him from the script itself as an abstract entity that represented the writings of a certain time and place. Xu Shen implicitly suggests in the following comment that the *guwen* was formed at least by late Spring and Autumn period, and was widely circulated during the Eastern Zhou period.

> After the Qin accomplished their goal, they burnt all (the copies) of the *Shijing* and *shangshu*. The historiographies of the feudal states in particular were a target of this book burning for the reason that they contained severe criticism (of the Qin state). **The *Shijing* and *Shujing* have reappeared, because copies of them are often held in private homes.** But the historiographies were preserved only in the Zhou archive, so they were all destroyed. How regrettable! How regrettable! The record of the Qin state is the only one remaining, but it is lacking the records of the months and days, and its composition is largely defective…So following from Spring and Autumn period based on the *Chunqiu*, I rely on the record of the Qin to present the events of the Six States in a table beginning from King Yuan of Zhou and ending at the Second Emperor. This table covers two hundred and seventy years, in which I wrote all I know about the rise and fall of this period.

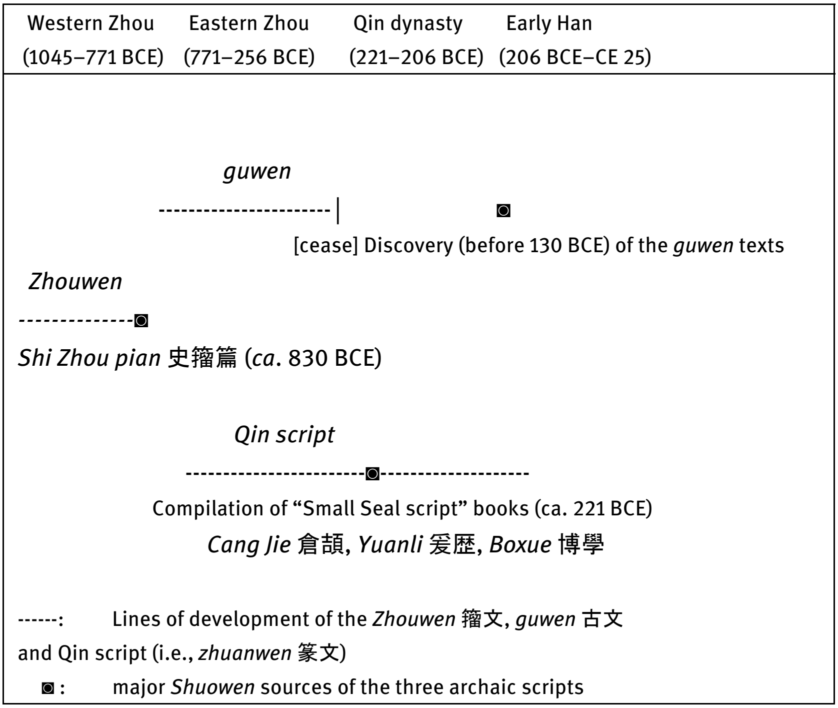
We can see from this passage that it was common in Sima Qian's time to see pre-imperial copies of early texts. Copies of the *Shijing* and *Shangshu* were many, and those of such texts as the *Lunyu* and *Xiaojing* would have been likewise frequently seen. If Sima Qian had seen a *guwen* version of the *Chunqiu*, he did not mention it because there was probably no notable difference between the current and old versions.

Sima Qian testified to the existence of the *guwen Shangshu* that came from the Lu region where the Kong family was located even though he did not note on the precise time of discovery. Perhaps the discovery of the "Confucius's wall texts" is only one of many incidents of the recovery of pre-imperial texts during the Early Han period, and came to be singled out and developed into an historical anecdote after Sima Qian's time.

> 及宣王大史籀著大篆十五篇與古文或異, 至孔子書六經左丘明述春秋傳皆以古文(15a/757).
>
> When it came to the time of King Xuan (of Western Zhou), Grand Scribe Zhou authored the book of Large Seal script in fifteen chapters, [character forms of which are] sometimes different from the *guwen*. By the time when Confucius was writing the Six Classics and Zuo Qiuming was transmitting the commentary to the *Chunqiu*, they were all using the *guwen*.

The chart summarizes Xu Shen's explanation on the origins and sources of the *Zhouwen*, *guwen* and Qin seal scripts.

Development of the three scripts as explained by Xu Shen



One would presume that the "Confucius's wall texts", which served as the major source of the *guwen* script in the *Shuowen*, were probably Warring States manuscripts written on bamboo strips, locally produced in the eastern Qi-Lu region. But the Han textual sources do not provide any information of that sort, which would be crucial to the identity of the *guwen* script. That the *guwen* in fact represents the writings of the Warring States period is confirmed by the comparison of

the *guwen* forms with discovered Warring States sources. The *guwen* forms show features of the Warring States script appearing in a variety of regional scripts.[24] As Warring States materials are overwhelmingly from the Chu region, (in particular, bamboo texts from regions other than the Qin are entirely from the Chu region), the *guwen* attestations also most frequently come from the Chu script. Below are examples of Shanghai "Zhouyi" Chu manuscript characters that find compatible forms among the *Shuowen guwen* forms.

Shuowen *guwen* and Shanghai *Zhouyi* manuscript forms

word	Qin Seal	Guwen	Shanghai "Zhouyi"
wǎng 往 'go toward' (2b/76)[25]			[进] (str.30)
hòu 後 'posterity' (2b/77)			[逡] (str.9)
yá 牙 'tusk' (2b/80)			[𦥑] (str.23)
hù 户 'household' (12a/586)			[床] (str.52)
gé 革 'raw-hide' (3b/107)			[革] (str.47)
lì 利 'sharp' (4b/178)			[邴] (str.1)

24 See He Linyi (2003: 45-55) for a list of over 170 *Shuowen guwen* forms, compatible forms of which are attested in excavated Warring States sources from various regions such as the Chu, Jin (represented by the 侯馬盟書 "Houma mengshu" corpus), Zhongshan (the 中山王 "Zhongshan Wang Cuo" bronze corpus).

25 The reference number is the chapter and page number in the *Shuowen Jiezi zhu* 說文解字注 (Shanghai, Shanghai guji, 1981 [2003]).

miào 廟 'ancestral temple' (9b/446)	[廟]	[庿]	[⿱宀苗] (str.52)
wén 聞 'hear' (12a/592)			[⿰昏耳] (str.38)
héng 恆'constant' (13b/681)	[恆]		[亙] (str.15)
biǎo 表 'outer-garment' (8a/389–90)	[⿴衣毛]	[⿰衤麃]	[⿴衣麃] (str.6)

Notes to the table

a. In the cases of 往 and 後, the *guwen* forms have in common an additional component 止 'step'. In the early Chinese script 彳 'road' and 止 'step' are often used interchangeably, and also often in combination with each other. The combination of the two gives the modern clerical form 辶 (辵).

b. The *guwen* variants of 牙 and 戶 have added semantic components, 臼 'grinder' and 木 'wood'. This type of structural augmentation took place extensively in the Warring States script.

c. The QS [廟] derives from the Western Zhou form (虢季子白盤).[26] The component on the right side of 卓 in the latter is replaced by a graphically similar component 舟 in the QS, which in turn is replaced by 月 in clericization. The alternation between 月 and 舟 is seen again, in the character for *héng* 恆 'constant': QS has 舟 and *guwen* has 夕, a variant of 月. In this case, the original Western Zhou form is 月 (夕): (恒簋). The use of the phonophoric 苗 seems to be a Warring States innovation, widespread in regions other than the Qin state. The two components 广 'building' and 宀 'roof' are often used interchangeably in the Warring States script. See the form 庿 (中山王壺) with 广 'roof' in the Zhongshan bronze corpus.

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26 Bronze inscription characters which are cited with the names of the bronze vessels where the inscriptions belong, are from *Jinwen bian* 金文編 by Rong Geng (1985 [2005]), except that Zhongshan Wang Cuo 中山王嚳 bronze inscription characters are from *Zhongshan Wang Cuo qi Wenzi bian* 中山王嚳 器文字 編 by Zhang Shouzhong (1981). The bronze vessel names are given in Chinese characters only. Those from two other sources, *Yin Zhou Jinwen Jicheng* 殷周金文集成 (Zhongguo shehui kexueyuan kaogu yanjiusuo 中國社會科學院考古研究所, 1984-1994) and *Shang Zhou Qingtongqi Mingwen xuan* 商周青銅器銘文選 (Ma Chengyuan 馬承源 ed. 1987-1990) are cited with the inscription numbers in these publications, and the vessel names are given only when they are pertinent to the discussion.

d. The *guwen* form for the word *wén* < ***mən** 聞 'hear' has the component 昏 (Cf. *hūn* < ***hmmən** 昏 'dusk') instead of 門 (Cf. *mén* < ***mmən** 門 'door'). The alternating phonetic components are equivalent in their functional values, both representing the syllable type ***Mən** (i.e., bilabial initial with the Old Chinese rhyme *-ən). This *guwen* character form is also found in the Zhongshan bronze corpus: (中山王鼎).
e. The QS [衣毛] for the word *biǎo* < ***prawʔ** 表 'outer-garment' has the phonetic component 毛 (Cf. *máo* < ***mmaw** 毛 'body hair') whereas the *guwen* [衤麃] has 麃 (Cf. *páo* < ***bbraw** 麃 'kind of deer'). In this case also the alternating phonetic components are equivalent in their functional values, viz., ***Maw~*Paw**. The component 火 in the received standard 麃 distinguishes the latter from 鹿 which stands for *lù* < ***rruk** 'deer'. In the SHZY character, the graph 鹿 indicates the value *páo* < ***bbraw** without the 火.

The agreement between the *guwen* and Chu characters such as the cases cited above does not necessarily mean that Xu Shen's sources of *guwen* were from the Chu region. There are two factors to consider. First, the contrast between the Qin Seal forms and the *guwen* forms often manifests variations typical of the Chinese writings of the Warring States period. So the Chu script, while having a form matching the *guwen* is also likely to have another variant form consistent with the Qin Seal form. In this case, the *guwen* form contrasting with its Seal form counterpart is to be found in one regional script or another. Second, there is the possibility that a given *guwen* form could be a form shared by various regional scripts including Chu. In this case, the Chu script is a representative of the many non-Qin regional scripts. Overall the Qin Seal and *guwen* scripts as represented in the *Shuowen* are two phases of the same early Chinese writing system, whose contrasting forms occupy only a small portion of their inventories.

The sources and nature of the three early Chinese scripts in the *Shuowen jiezi* are summarized as below.

1. Xu Shen regarded the Qin Seal (*xiaozhuan*), *guwen* and *Zhouwen* scripts as a single Chinese writing system, the script of the Zhou era (1045–221 BCE).
2. Xu Shen's sources of the Qin Seal script characters are character books (*zishu* 字書) and epigraphic sources produced during the Qin dynasty. This Seal script of the Qin dynasty reflects the Qin regional script of the Warring States period.
3. Xu Shen's sources of the *guwen* characters are in the main the texts discovered in the early Han period originating from the Qi-Lu region during the Warring States period. Apart from these, the sources also included Warring States text copies from various regions collected by and offered to the state

in the early Han period. So the *guwen* script, even with the significant infusion of the Qi-Lu script, is most fairly and safely defined as a composite of various regional scripts of the Warring States period.

4. Therefore a given contrast between a Qin Seal form and its *guwen* equivalent in the *Shuowen jiezi* represents a case of regional variants between the pre-imperial Qin script and a non-Qin regional script.

2 The Old Chinese phonology

2.1 Manuscripts as new sources of data for Old Chinese

The sources of data for phonological studies in early manuscripts consist in so-called *tongjia* 通假 or phonetic loan characters. The phonological relation between the word that a *tongjia* character normally stands for in the received early Chinese literature (which constitutes the standard received orthography) and the word intended by the loan character is accounted for by phonetic compatibility in the initial consonants and rhymes similarly to the relation between characters that belong to the same *xiesheng* 諧聲 phonophoric series. Whether a manuscript character is a loan character, i.e., whether it stands for some other word than the one it regularly stands for in the standard orthography and which word it then actually stands for are judged on the basis of comparisons with received texts that have comparable contexts and wordings. In the case where a manuscript text has a matching transmitted version, words in the latter serve as the point of reference for the interpretation of the former. Thus a *tongjia* character and its standard received character counterpart also constitute phonologically related textual variants. It is to be noted that the term *tongjia* in phonological or textual studies does not necessarily mean that the character is literally 'borrowed for' its received counterpart; it refers to the differences in character usages and the phonological relations that link the two words involved. What matters is identifying words behind those character variants and that has to be provided by the normal characters by which the words are written.

A phonological study of *tongjia* characters concerns in particular the alternations of initials and rhymes between the two corresponding words in comparison with Middle Chinese and Old Chinese phonological systems; the outcome of the study is thus also to be stated in some relation to MC and OC. To illustrate the procedure I will present the first hexagram chapter of the Mawangdui silk manuscript "Zhouyi 周易" (ca. 168 BCE) and its received version. Characters with phonologically related variants are bold-faced.

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Phonologically related textual variants from the perspective of phonetic loans

Mawangdui silk manuscript (ca. 168 BCE)	Received
鍵 元亨利貞	**乾** 元亨利貞
初九 **浸**龍勿用	初九 **潛**龍勿用
九二 見龍在田利見大人	九二 見龍在田利見大人
九三 君子終日**鍵 鍵**夕泥若厲无咎	九三 君子終日**乾乾**夕惕若厲无咎
九四 或**⿰魚龠**在淵无咎	九四 或**躍**在淵无咎
九五 **翡**龍在天利見大人	九五 **飛**龍在天利見大人
尚九 **抗**龍有悔	**上**九 **亢**龍有悔
迵九 見羣龍无首吉	**用**九 見羣龍无首吉

tongjia pairs (MWD :: Received)

鍵 *jiàn* < *gjonX* (*-an) 'door-bolt' :: 乾 *qián* < *gjen* (*-an) 'Qian, hexagram name'
浸 *jìn* < *tsimH* (*-əm) 'soak' :: 潛 *qián* < *dzjem* (*-əm) 'submerge'
⿰魚龠 is unknown; Cf. 龠 *yuè* < *yak* (*-awk) 'flute' :: 躍 *yuè* < *yak* (*-awk) 'jump'
翡 *fěi* [irregular tone] < *bjwɨjH* (*-əj) 'sparrow' :: 飛 *fēi* < *pjwɨj* (*-əj) 'fly'
尚 *shàng* < *dzyangH* (*-aŋ) 'loft' :: 上 *shàng* < *dzyangH* (*-aŋ) 'up'
抗 *kàng* < *khangH* (*-aŋ) 'resist; raise; high' :: 亢 *kàng* < *khangH* (*-aŋ) 'high'
迵 *dòng* < *duwngH* (*-oŋ) 'thorough' :: 用 *yòng* < *yowngH* (*-oŋ) 'use'

The words *jiàn* 鍵 and *qián* 乾 in the first pair share the MC initial *g-*, and this makes in a quantitative study one technical count of alternation or a case of contact between two words with the same initial *g-*; their MC rhymes are different as *-jon* and *-jen*, but they both belong to the OC rhyme group *-an. Since the OC source of *g-* is *g-, the phonetic compatibility of these two words is accounted for by their individual relation to an OC syllable in the phonetic form of *gan. It is not necessary to assume that the 鍵 is borrowed for 乾, or vice versa; there always exists the possibility that the word originally intended is neither *jiàn* nor *qián*, but a third one of the same syllable type *gan. The second pair *jìn* 浸/ *qián* 潛 shows an alternation between *ts-* and *dz-* which coincides with that between *ts- and *dz-; their MC rhymes are incompatible as *-im* vs. *-jem*, but again, their OC rhymes agree as *-əm. Continuing this way a system of initial consonants and rhymes behind these *tongjia* alternations can be obtained.

Zhou Zumo in his classic article "Handai zhushu yu boshu zhong de tongjiazi yu guyin de kaoding 漢代竹書與帛書中的通假字與古音的考訂" (1984) has shown that the phonological phenomena reflected in Early Han manuscript *tongjia* characters are basically the same as those in *xiesheng* alternations. He presents a system of phonemic distinctions derived from the *tongjia* characters as an Old Chinese initial consonant system (古聲類的一個系統). Zhou's study is made in response to the Yinqueshan 銀雀山 (Shandong Linyi 臨沂, 1972) and Mawangdui 馬王堆 (Hunan Changsha 長沙, 1973) Early Han manuscript discoveries.[27] Similar results are obtained by Zhang Ru (1988) who combines the Shuihudi Qin manuscripts with the two Han manuscript corpora, which is about half a century earlier than the latter. Zhao Liwei (2002) who exclusively deals with the Shuihudi manuscripts also confirms the phonological system of the *xiesheng* series and the *Shijing* rhymes.

Zhou Zumo begins the article pointing out the presence in these early manuscripts of non-transmitted old character forms and of early *tongjia* characters known from the Zhou bronze script. In concluding remarks he comments on similarities between *tongjia* characters in the manuscripts and textual variants among received early Chinese literature. Zhou implies by this presentation that the agreement between the *xiesheng* and *tongjia* phonology on the overall phonological system is due to (at least partially) the orthography of the early script preserved in the early manuscripts.

Given that the phonological system reflected in the phonologically related textual variants in the early manuscripts agrees with the Old Chinese, we can expect to find in those textual variants information about individual OC word pronunciations. Note for instance the alternation between *dòng* 迵 and *yòng* 用 in the last line of the hexagram chapter cited above. Words with the phonetic component 同 from received early literature as collected in Karlgren's *Grammata Serica Recensa* (1957, no. 1176) only include the two MC initials *d-* and *th-*, and so the OC initial of the words in this phonophoric series would be indeterminate between *L- (laterals) and *T- (dental stops) if the received orthography was our only available source. The manuscript character *dòng* 迵 corresponding to the received *yòng* 用 links the phonophoric series 同 to that of 用: the 用/甬 series (GSR #1185) contains words with MC *d-*, *th-*, *y-* and *z-*, and this combination clearly indicates an OC *l- initial. This *tongjia* alternation thus suggests that both the graphs 同 and 用 are used to write words in the syllable type *loŋ, i.e., words with an initial of the *l- type and the rhyme *-oŋ.

27 See Liu Baojun (1986) for a study exclusively of the Mawangdui manuscripts and Zhao Cheng (1986) for the Yinqueshan manuscripts.

If we examine words in the series 同 and 用 with their relatedness in mind, we might find a word-family whose members come from either the 同 or the 用 series. But first note that the graph 用 (頌簋) is in origin derived from 甬 (毛公鼎). It turns out that the latter regularly appears as a phonetic component, but the former is rarely used other than for the lexical item *yòng* 用 'use' in the received orthography. We identify a series of cognate words written with either 同 or 甬, whose root meaning is √ PENETRATE.

Alternating phonophorics 同 ~用(甬) and the word family *loŋ √ penetrate

湧, 涌 *yǒng* < *yowngX* < ***loŋʔ** 'gush forth (as a spring)'[28]
箽, 筒 *tóng* < *duwng* < ***lloŋ** '(bamboo) tube'
通 *tōng* < *thuwng* < ***hlloŋ** 'pass through'
洞 *dòng* < *duwngH* < ***lloŋ-s** 'fast current, penetrate, cave'[29]
迵 *dòng* < *duwngH* < ***lloŋ-s** 'thorough'

Thus the manuscripts afford us with supplementary or decisive information about previously uncertain cases, especially for those words whose Middle Chinese initials have two or more OC origins. Revised reconstructions based on such new evidence have further implications on word-family relations and text interpretations.[30]

2.2 A reconstruction system of Old Chinese phonology

How the Old Chinese phonology is reconstructed bears directly on how we interpret graphic evolution and variations observed in the early Chinese writing system. In this section, I explain the Old Chinese phonological system which is employed throughout this study.

The Old Chinese phonology is reconstructed as a direct ancestor of the Middle Chinese which represents the phonological system underlying the *Qieyun* 切韻 (CE 601) rhyme dictionary. In the latter, the MC phonology is manifested in a kind

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28 This lexical item is taken from Karlgren's GSR #1185.
29 The meaning 'cave' for the character 洞 is not attested in early texts, but it seems to be etymologically the same as the early Chinese word associated with the character.
30 See Li Yu (1994) for a comprehensive phonological study of manuscripts from the Qin and Han dynasties. See also Zhao Tong (2006) for an attempt at reconstructing a W.S. period Chu dialect phonology through Chu manuscripts. See Park (2009: 44-62) and 2011 for critical reviews of Li and Zhao respectively.

of syllable-structure analysis, which divides a syllable into two parts, initial consonant and rhyme, with the latter being realized in the four distinct tones, *ping* 'level', *shang* 'rising', *qu* 'departing', and *ru* 'entering' tones. The first three tones occur in syllables with voiced endings and the last in voiceless stop endings. The initial consonants thereof is presented somewhat indirectly: the dictionary gives groups of homophonous words under each rhyme category, and the pronunciation of each group is provided in a sound-gloss method called *fanqie* 反切 'turning and cutting'. This method indicates the pronunciation of one word by those of two other words which have the same initial and rhyme respectively with the sound being glossed. For example, 熏 MC *xjun* 'to cure (meat or fish) by exposure to smoke' is glossed as "許云", i.e., MC *xjoX* 'allow' + *hjun* 'say', and the pronunciation *xjun* is reached by combining the initial *x-* of the first word and the *-jun* in *ping* tone of the second. The initial consonants can then be deduced by obtaining groups of the initial 'spellers'. The original *Qieyun* only survives as manuscript fragments found in Dunhuang in the early-to-mid 20th century, but the *Guangyun* 廣韻 (CE 1008), an expanded redaction of the *Qieyun* which preserves the MC system of the latter intact remains today as our primary source (Zhou Zumo 1983).

While the *Qieyun* dictionary gives so many clues to the sound system, the reconstruction of the Middle Chinese is also crucially aided by the phonological analysis in the *yuntu* 韻圖 'rhyme tables' from the Tang and Song periods. These rhyme tables further analyze both initials and rhymes: each of the MC initial phonemes is given a name and assigned to a place of articulation, and all the rhymes are divided in four grades, namely, Division I through IV. The features defining these four grades, as expressed in the reconstruction by Karlgren (1954) consist in both vowel height and color. The reconstruction of MC phonology is quite unproblematic, especially after a general agreement on a few modifications to Karlgren's system has been established by the time of F. K. Li (1971). Chinese historical linguists generally treat MC as a textually attested language, rather than a reconstructed language, so that MC syllables are conventionally not marked by an asterisk. Baxter 1992 proposed a "transcription" system based on the previously established MC. I use Baxter's MC transcription system in this study.

The OC is a system which underlies both the rhymes of the *Shijing* 'Book of Odes' and the phonophoric system in the early Chinese writing system: the former provides rhyming words which suggest rhyme categories[31], the latter provides groups of words written with the same phonetic graphic component (i.e.,

31 OC rhyme categories are conventionally called "rhyme groups" as opposed to MC "rhymes"; in Chinese, the former is called *yunbu* 韻部 and the latter simply *yun* 韻.

phonophoric), traditionally called *xiesheng* 諧聲 series. The latter reveals the initial categories, because it requires compatibility in both in the initial and rhyme between two words to be written with the same phonophoric.

While there is one coherent system which these two major written sources of OC converge on, as one can expect, there is evidence for dialect variation in all above mentioned sources. Baxter sometimes refers to the former 'mainstream phonology' as opposed to Old Chinese dialects. One may relate this 'mainstream phonology' to the "*yayan* 雅言" 'Elegant Speech' which refers to the *lingua franca* around the S.A. period.[32] A standard spoken Chinese should have existed before and after that time, so we may think of the *yayan* roughly overlapping with the entire Old Chinese phonological period, although we do not know the precise times for its rise and fall.

As with any *lingua franca*, the *yayan* should have had some loan words from other dialects and languages; as a common language spoken by people(s) with different native dialects and languages, there could have been some frequently heard non-native "accents" as well. Thus at least part of the dialect mixture phenomenon observed in these sources could be attributed to the *yayan* itself as a realistic *lingua franca*, rather than to mixed origins of the written sources themselves.

In the following discussion of Old Chinese, *xiesheng* phonophoric series are presented in the standard received orthography. As discussed earlier, the received orthography in its essence represents the standard of the Qin regional script. For our purposes, this means that unless a character is proven to be of late origin, it is assumed to be consistent with the received orthography as of the late Warring States period (W.S. hereafter). It is important to bear this point in mind in order to anticipate comparisons of the latter with Chu manuscript phonophorics in later chapters.

2.2.1 Overview

The reconstruction system used in this study purports to reflect the phonemic distinctions that are generally acknowledged by historical phonologists of Old Chinese. Some characteristics of this system, which will be elaborated below are as follows.

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32 The *Lunyu* has the line: 子所雅言, 詩書執禮皆雅言也 ("Shuer 述而" chapter) "These are the occasions for which Confucius speaks *yayan*: when he quotes the Book of Odes and the Book of Documents, and when he holds ceremonies, he always uses *yayan*".

It notates the distinction between MC Division III (corresponding to OC Type B syllable) *vs*. I, II, IV (OC Type A syllable) as orthographic single *vs*. double consonants following the "Baxter-Sagart system version 0.97" (Sagart 2007).[33]

It reconstructs the coda *-r as proposed by Starostin (1989 [2010]), and as further developed in current "Baxter-Sagart system" ("version 0.98" [2008]- "version 1.0" [2011]).

It has a set of uvular initials that accounts for the MC laryngeal initials (*houyin* 喉音 'throat sounds'); Baxter and Sagart accepted the reconstruction of uvulars originally proposed by Pan Wuyun (1997) with some modifications (Sagart and Baxter 2009). The system presented in this study follows Pan Wuyun's 1997 original proposal rather than Baxter and Sagart's modified version.

It is different from Baxter 1992/ "Baxter-Sagart 0.97-1.0" in the treatment of the rhymes that are covered by the 'Rounded vowel hypothesis'.

2.2.1.1 The third *vs.* non-third division syllables and the second division medial *-r-

The distinction between the third *vs*. non-third division syllables, featured in MC as the presence and absence of medial *-j-* or palatal initials respectively, is assumed to lie in the initial segment in the Old Chinese stage. While the precise phonetic nature of this distinction is still underdetermined, the former is written with a single letter and the latter with a double letter. Medial *-r- is reconstructed exactly like that in Baxter 1992, mainly for the second division syllables and retroflex initials, and also for some MC rhyme distinctions (for the second and third division rhyme couplets that come from the same OC rhyme group) and the *chongniu* syllables.

For example, the three series of MC initials, the dental stops {*t*-, *th*-, *d*-}, retroflex stops {*tr*-, *dr*-, *thr*-}, and palatal affricates {*tsy*-, *tsyh*-, *dzy*-} which go back to a single stop series, (unless they have different origins such as the *l- type initial) are reconstructed as follows.

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33 Baxter and Sagart since their "Baxter-Sagart 0.98" version (2008) have adopted in their reconstruction system 'pharyngealization' as the phonetic feature in OC that conditioned the separation of MC D-I, II, IV from MC D-III syllables, following Jerry Norman's 1994 original proposal with some modifications. In this new interpretation, for e.g., the previous ***tt**-> *t*- corresponds to ***tˤ**- > *t*- (D-I, II, IV) and ***ttr**-> *tr*- to ***tˤr**- > *tr*- (retroflex in D-II); the notation for D-III syllables appears unchanged after the new interpretation, for e.g., ***tr**-> *trj*- (retroflex in D-III), and ***t**-> *tsy*- (D-III) in both systems, but, it is used with a different meaning now, i.e, absence of pharangealization.

*t- > *tsy-*	*t^h- > *tsyh-*	*d- > *dzy-*	palatal affricates (only in D-III)
*tt- > *t-*	*tt^h- > *th-*	*dd- > *d-*	dental stops (only in D-I, II, IV)
*tr- > *trj-*	*t^hr- > *trhj-*	*dr- > *drj-*	retroflex stops in D-III
*ttr- > *tr-*	*tt^hr- > *thr-*	*ddr- > *dr-*	retroflex stops in II

2.2.1.2 The initial *r-

The OC source of MC *l-* is reconstructed as *r-. It has been shown by Schuessler (1974) and Yakhontov (1976 [1986]) among many others that the MC *l-* corresponds to /r/ in Tibeto-Burman cognate words and Tai and Vietnamese loan words. More importantly, the MC *l-* is closely related to the medial *-r-: Yakhontov (1960 [1986]) observes that (a) the *l-* initial words rarely occur in D-II (i.e., the medial *-r- and MC l- are in complementary distribution) and (b) words with velar or labial initials that have *xiesheng* contact with *l-*, which were reconstructed by Karlgren as *Kl or *Pl type clusters, are often in D-II. F.K. Li (1971 [1982]) gives *-r- when the of K-/P- ~ *l-* alternation overlaps with D-II. For example, *gè* < *kæk* < ***krak** 格 'frame' (D-II) :: *luò* < *lak* < ***lak** 洛 'name of a river' and *mâi* < *mεj* < ***mrəg** 埋 (薶) 'bury' (D-II) : *lí* < *li* < ***ljəg** 貍 'kind of wild cat' (p. 24). Yakhontov suggests to reconstruct a single source for both the D-II vocalism and *l-* , viz., *l and he later (1976 [1986]) revised it to *r.

Words that have the MC aspirated dental or retroflex stop *th-* (*tou* 透) or *trh-* (*che* 徹) and have *xiesheng* contact with *l-* are given *hr-, the voiceless counterpart of *r-. At present we do not have an explanation for the distinction in OC between *th-* and *trh-* words that are both in D-II. The word *tǎ* < *that* < ***hrrat** 獺 in contact with *lài* < *lajH* < ***rrat-s** 賴 'rely on' is in D-II; the word *chài* < *trhæjH* < ***hrrat-s** 蠆 'scorpion' in contact with *lì* < *ljejH* < ***rat-s** 厲 'grindstone' is also in D-II.

*r- > *lj-*	*rr- > *l-*
*hr- > *trhj-* (D-III)	*hrr- > *th-* (D-I, II, IV) ~ *trh-* (D-II)

2.2.1.3 The initials *l- and *[g]-

The OC origin of MC *y-* (*yusi* 喻四) is reconstructed as *l- (D-III) (except for a small number of cases that are related to the velar and uvular series) and MC *d-* initial words in *xiesheng* contact with the latter makes its non-D-III counterpart. Thus the OC system has *r- and *l- contrasting with each other.

Pulleyblank (1962) discovered the now generally acknowledged *l- type *xiesheng* series which include members from the MC set of initials {*th-*, *d-*, *trh-*,

dr-, *y-*, *sy-*, *zy-*, *s-*, *z-*}. This set is characterized by the lack of the voiceless unaspirated obstruents such as *t-*, and *tr-* and *tsy-* and the inclusion of alveolar and palatal fricatives. The *y-* and *d-* are almost always present in a series that lacks *t-*, and *tr-* and *tsy-* and thus their presence alone can be reasonably taken as an indication of the *l- series in the absence of the other less frequently occurring items such as *dr-*, *trh-* and *zy-* etc. So we will not assume another dental origin of *y-*. The developments of the *l- series initials are as follows. The reconstructions for *zy-* (*chuan* 船) and *z(j)-* (*xie* 邪) are more tentative than the others in the series.

*l- > *y-*	*ll- > *d-*
*hl-> *sy-*	*hll-> *th-*
*lr-> *drj-*	*llr-> *dr-*
*hlr-> *trhj-*	*hllr-> *trh-*
*sl- > *sj-*	*sll- > *s-*
*zl- > *zy-*	*zll- > *zj-*[34]

Some of *y-* initial words have contact with MC velar and laryngeal initials which are reconstructed with velar and uvular initials in OC. This phenomenon may be interpreted as an effect of velar/uvular palatalization. But we do not know the conditioning factor. Note the pairs,

yŭ < *yoX* 與 'join' :: *jŭ* < *kjoX* (*k-) 舉 'raise' (both characters contain the phonophoric *yâ* < *ŋæ* 牙 'fang');
yâng < *yang* 羊 'sheep' :: *yŏng* < *hjwæŋX* (*Gw-) 羕 (variant of 永) 'eternal';
yĭ < *yiX* 已 'already' :: *găi* < *kojX* (*k-) 改 'change'.[35]

I will write *[g]- (> *y-*) which stands for some sort of voiced guttural stop with its point of articulation underdetermined.

Baxter-Sagart system reconstructs *G- for *y-* with velar/uvular contacts. This *G- is posited as the non-labialized counterpart to *G^w-, the origin of *hj-* which is almost always with medial -w-. However, it is still not satisfactory to assume that such cases of *y-* come only from uvulars rather than velars when there is no independent evidence that supports the reconstruction of uvular origins on the whole. Because Baxter-Sagart assumes that a *xiesheng* series with both uvular and velar initials must be reconstructed with uvular root initials (see section

34 (Cf. Baxter and Sagart *m-l- > *zy-* and *s-m-l- > *sy-*. For example (Baxter 2010: 173), 食 *shí* < *zyik* < ***m-lək*** 'eat' :: 飤 *sì* < *ziH* < ***s-m-lək-s*** 'feed' :: 飾 *shì* < syik < ***l̥ək*** 'decorate' :: 飭 *chì* < *trhik* < ***l̥rək*** 'firm')
35 The two characters *yĭ* 已 and *sì* 巳 developed from a single early script form, （盂鼎）

2.2.1.5 for more detail), this *G- > *y*- leads to many instances of the velarizing *Cə.-. I think that MC velar initials in contact with *y*- can simply be reconstructed as OC velars as usual. An example of a *xiesheng* series with interchanges between *y* and velar stops in Baxter-Sagart system (example from Sagart and Baxter 2009:231) is:

> 羊 yáng < *yang* < ***G(r)ang** 'sheep' :: 羌 qīang < *khjang* < ***Cə.q**^{h}**aŋ** 'Western tribes' :: 姜 jīang < *kjang* < ***Cə.qaŋ** 'a family name'.
> In a simpler alternative reconstruction that I suggest here: 羊 *[**g**]**ang**, 羌 ***khaŋ**, 姜 ***kaŋ**.

2.2.1.4 The initials *z-, *s-g- and *s-d-

The MC *z*- has a few distinct sources including *z- itself. The *z*- occurs only with D-III finals and it conspicuously makes *xiesheng* contact with initials in all points of articulation but the labials i.e., with the *l- series, plain dental stop, alveolar sibilant, as well as velars series. F.K. Li reconstructed *rj- for *z*- (in non-velar connections), which is then in a sort of complementary distribution with his *r- for *y*- (*yusi* 喻四). Li assumed this *r- to have phonetic quality like an alveolar flap so that it can have *xiesheng* contact widely with all acute initials. The *r- is now generally reconstructed for MC *l*- as discussed above. In addition, there is no compelling reason to combine *y*- and *z*- as a single phoneme. A *xiesheng* series such as the the 司 series (GSR #972) which consists of words with *s*- and *z*- makes the existence of a distinct phoneme like *z- quite plausible: *sī* < *si* 司 'superintend':: *sì* < *siH* 伺 'spy' :: *cí* < *zi* 祠 'spring sacrifice' :: *sì* < *ziH* 嗣 'continue, inherit'. Given the alternation of *s- and *z-, the two words *xiàng* < *sjangH* < ***saŋ-s** 相 'observe, appearance' and *xiàng* < *zjangX* < ***zaŋʔ** (or ***N-saŋʔ**) 像 'appearance, image' make a good pair of cognate words.

The *z*- in contact with velar initials may not be accounted for by *z-. Some examples of *z*- ~ *k*- (or *ng*-) alternations are:

> *xié* < *zjæ* 邪 'skewed':: *yá* < *ngæ* 牙 'fang';
> *sòng* < *zjowngH* 訟 'litigate' :: *gōng* < *kuwng* 公 'lord';
> *sì* < *ziX* 巳 'sixth of the Earthly Branch' :: *gǎi* < *kojX* 改 'change'.[36]

We will follow F.K. Li's suggestion to reconstruct *s-g- > *z*- (1982: 88-91). Thus ***s-ga** for *xié* 邪, ***s-goŋ-s** for *sòng* 訟 and ***s-gəʔ** for *sì* 巳.

36 The character 改 is written with the phonetic 巳 (*var.* 巳), not with 己 in the early script (the Chu bamboo script and Qin Seal script).

Another probable source of *z- is *s-d-. The word *xí* < *zjek* 席 is written with 石 *shí* < *dzyek* < ***dak** 石 'stone' in Chu manuscripts, which suggests ***s-dak** for MC *zjek* 'mat'. In fact, the received character 席 seems to have had the same component 石 in origin, but it became unrecognizable through graphic evolution. (See Section 4.3.1).

2.2.1.5 Uvular initials

The reconstruction of the uvular series *q-, $*q^{h}$- and *G- as the respective origins of the MC *ʔ* - (*ying* 影), *x-* (*xiao* 曉), and *hj-* (*yusan* 喻三) follows Pan Wuyun (1997). The OC thus has a stop series in the uvular point of articulation with the regular three-way distinction contrasting with the velar stop series {*k-, $*k^{h}$-, *g-} in the system. MC *hekou* (syllables with medial -w-) and *kaikou* (without -w-) syllables are strictly divided in *xiesheng* series, i.e., a given phonophoric series consists entirely of either *hekou* or *kaikou* syllables, thus the -w- is treated as a feature of initial in OC stage: a labio-velar series is reconstructed separately from the velar series as {$*k^{w}$-, $*k^{wh}$-, $*g^{w}$-} and so is the labio-uvular series {$*q^{w}$-, $*q^{wh}$-, $*G^{w}$-} from its plain uvular counterpart . The rules of the developments of the velar/uvular initials are as follows:

*k- > *kj-*	*kk- > *k-*	$*k^{w}$- > *kjw-*	$*kk^{w}$- > *kw-*
$*k^{h}$- > *khj-*	$*kk^{h}$- > *kh-*	$*k^{wh}$- > *khjw-*	$*kk^{wh}$- > *khw-*
*g- > *gj-*	*gg- > *h-*	$*g^{w}$- > *gjw-*	$*gg^{w}$- > *hw-*
*[g]- > *y-*			
*G- > *hj-*	*GG- > *h-*	$*G^{w}$- > *hjw-*	$*GG^{w}$- > *hw-*
*q- > *ʔj-*	*qq- > *ʔ-*	$*q^{w}$- > *ʔjw-*	$*qq^{w}$- > *ʔw-*
$*q^{h}$- > *xj-*	$*qq^{h}$- > *x-*	$*q^{wh}$- > *xjw-*	$*qq^{wh}$- > *xw-*

2.2.1.6 The diphthongs -wa- and -wə-

Baxter's rounded vowels *o and *u before the dental codas, *-n, *-t, *-j and *-r are replaced by *-wa- and *-wə- respectively in this study.

Baxter 1992/ Baxter-Sagart 0.97-1.0	The system in this study
*-on	*-wan
*-ot	*-wat
*-oj	*-waj
*-or	*-war
*-un	*-wən

*-ut	*-wət
*-uj	*-wəj
*-ur	*-wər

The -w-, though labeled ‘medial’, has rounding effect on the main vowel when the vowel is followed by a dental coda so it does affect rhyming. Let us explain the *-wan/*-on case as a representative of all the eight pairs in question. Words in the syllable type *Kwan (K: velar or uvular) still have some contact with those in type *Kan or *Tan (T: acute initials), but those in *Twan (equivalent of Baxter’s *Ton) have almost no contact with the latter. So it seems that the rounding effect of *-w- is the greatest when both the initial and coda are dental. The -w- in *-wan after a velar or uvular initial simultaneously has rounding effect on the initial. In other words the -w- is as much part of the labio-velar/uvular initials as it is part of vocalism, so that *Kwan and *Kan type syllables do not appear in the same *xisheng* series.

F.K. Li gave the diphthong *-ua- for the dental *hekou* syllables in the *-an group to account for the fact that they do not rhyme with *Tan or *Kan but they do rhyme with *Kwan. See for example the word reconstructions *duàn* < *dwanH* < ***duanh** 段 ‘cut’ and *zhuǎn* < *trjwenX* < **trjuanx** 轉 ‘turn’ (1971 [1982]: 55). Since the complete segregation in rhyming between *kaikou* and *hekou* syllables is restricted to dental initials, the distinction between *-ua- and *-wa- can be dispensed with. We will discuss the ‘Rounded vowel hypothesis’ in some detail in Section 2.2.2.2.

Except for the rounded vowels before dental codas, I follow Baxter’s assignment of phonetic values to the traditional OC rhyme categories; Baxter’s ‘Front vowel hypothesis’ is also followed. In this hypothesis, Division IV syllables are reconstructed with the front vowels *e and *i, separately from the groups they traditionally belong to, which have non-front vowels. F.K Li’s system has the diphthongs *-iə- and *-ia- in such cases. For example, Baxter’s *-en by the Front vowel hypothesis generally corresponds to Li’s *-ian and Baxter’s *-iw to *-iəgw (See Baxter 1992: 240-47 for details).

2.2.1.7 Nasal initials, *N- prefix, *s- prefix

The nasal initials, both the voiced and voiceless, are analogous with their oral stop initial counterparts in the status of the *kaikou*/ *hekou* distinction:

(a) The *m- and *hm- do not have labialized counterparts. E.g., there is no contrast such as *man *vs.* *mwan or *hman *vs.* *hmwan.

(b) The -w- is rare after *n-; no case of -w- after *hn- has been known. This is parallel with the fact that the distribution of -w- is limited after dental stop and sibilant initials.

(c) The *ŋ- and *hŋ- contrast with the labio-velar-nasals *ŋ^{w}- and *hŋ^{w}- respectively.

The MC -w- is non-phonemic after the labials {*p*-, *ph*-, *b*-} (P- hereafter) and their OC sources {*p-, *p^{h}-, *b-} (*P-) do not require a phonemically distinctive -w-. Thus for example, an OC syllable *Pan has no *hekou* counterpart such as *Pwan that contrasts with it, and it rhymes freely with either *Kwan/*Twan or *Kan/*Tan. The same is true of the nasals in the same point of articulation *m- and *hm-. The *hm- is reconstructed for MC *x*- initial words that have *xiesheng* contact with *m*-. The words with *x*- in these cases are usually in *hekou* syllables, but some are in *kaikou* (F.K. Li 1982: 100). It is reasonable to assume that the former is the regular reflex of the *hm-, which preserves the -w- as a trace of the early labial nasal initial and the latter is a result of irregular loss of this feature: *hm- > *xw*- (regular) ~ *x*- (irregular). Note the following examples:

hū < *xwot* < ***hmmət** 忽 'neglect' :: *wù* < *mjut* < ***mət** 勿 'should not'
hūn < *xwon* < ***hmmən** 昏（昬） 'dusk' :: *mín* < *mjin* < ***m[i/ə]n** 民 'citizen'
huāng < *xwang* < ***hmmaŋ** 荒 'barren' :: *wáng* < *mjang* < ***maŋ** 亡 'be gone'
hēi < *xok* < ***hmmək** 黑 'black' :: *mò* < *mok* < ***mmək** 墨 'ink'

Note that when *x*- goes back to the uvular *q^{h}-, the -w- that follows it is phonemic, projected as a feature of the labio-uvular initial *q^{wh}-.

The -w- is limited after acute initials in general, and so it rarely occurs after *n*-. One phonophoric series that may be reconstructed with *nw- is: *nuǎn* < *nwanX* < ***nnwanʔ** 渜, 煗 'warm', id. 餪 'nuptial gift good'. The *hn- is reconstructed for the alternations between *th*- or *trh*- (*che* 徹 initial) and *n*- as well as between *sy*- (*shu* 書) and *n*-. For example:

tàn < *thanH* < ***hnnar-s** 歎 'sigh' :: *nán* < *nan* < ***nnar** 難 'difficult'[37]
chǐ < *trhjiX* < ***hnrəʔ** 恥 'shame' :: *ěr* < *nyiX* < ***nəʔ** 耳 'ear'
shù < *syoH* < ***hna-s** 恕 'forgive' :: *nǚ* < *njoX* < ***nraʔ** 女 'woman'.

The *hnw- would have to based on these dental or palatal initials in *hekou* finals that also have *xiesheng* contact with *n*-, but such a case is not found.

37 Baxter and Sagart (2008 [revised 2010]), Baxter (2010), Sagart and Baxter (2012: 42) propose that *hnn- (in Type A) in a "Western dialect", goes to *x*- as in 漢 hàn < *xanH* < ***hnnar-s**.

MC *ng*- (= ŋ) words with and without -w- are separated with each other in *xiesheng* series. Thus we reconstruct *ŋʷ- contrasting with *ŋ-. Compare for example, the series 月 with the 乂 series: *yuè* < *ngjwot* < ***ŋʷat** 月 'moon', id. 刖 'cut off feet', *wài* < *ngwajH* < ***ŋŋʷat-s** 外 'outer' *vs. ài* < *ngajH* < ***ŋŋat-s** 艾 'plant name, *yì* < *ngjojH* < ***ŋat-s** 乂 var. 刈 'mow'. The *hŋ- is reconstructed for *x*- alternating with *ng*-. The distinction between *xw*- and *x*- in this case is reasonably assumed to reflect that between *hŋʷ- and *hŋ-. For example,

xŭ < *xwjoX* < ***hŋʷraʔ** 許 'allow' :: *wŭ* < *nguX* < ***ŋŋʷaʔ** 午 'afternoon'
xī < *xje* < ***hŋ**(**r**)**aj** 'sacrificial animal' 犧 :: *yì* < *ngjeH* < ***ŋ**(**r**)**aj-s** 義 'proper'.

Mei Tsu-lin (2012) suggests to reconstruct *sm- > *x(w)-*, *sn- > *th-*, *and* *sŋ- > *x*- with prefix *s- instead of the voiceless nasal series {*hm-, *hn-, *hŋ-}.[38] Mei argues that the prefix *s- can account for cognate pairs with initial vocing alternation in general, that is, for obstruent and sonorant initials alike.[39]

The Baxter-Sagart system reconstructs a nasal prefix *N- for pairs with obstruent initials. For example, 敗 ***N-pˤrat-s** > *bæjH* > *bài* 'suffer defeat' :: same character ***pˤrat-s** > *pæjH* > *bài* 'defeat (transitive)'; 別 ***N-pret** > *bjet* > *bié* 'be separated' (intransitive) :: same character ***pret** > *pjet* > *bié* 'separate' (transitive) (Sagart and Baxter 2012).[40] In contrast, Mei's reconstruction for these are: 敗 ***brads** > *bæjH* :: ***s-brads** > *pæjH*, and 別 ***brjat** > *bjet* :: ***s-brjat** > *pjet*.

Mei's *s- and Baxter-Sagart's *N- have opposite effects, both phonetically and morphosyntactically: the *s- devoices the following root initial, and it is valency-increasing (associated with such syntactic and semantic features as transitive, causative, denominative, active, directive, outer-directed, intensive); *N- voices the following initial and it is valency-decreasing (intransitive, anticausative, stative, inactive, inner-directed). With *s-, the voiced variant is the simplex, from which the voiceless one derives; with *N- , the direction of derivation is the opposite.

The given syntactic and semantic relation may be explained equally well either by *s- or *N-. In Tibeto-Burman languages, parallels of both the prefixes *N- (nasal, voiced, and voicing) and *s- (sibilant, voiceless, and devoicing) are widely

38 The first member of this set was first proposed by Dong Tonghe (1944). F.K. Li subsequently completed the series by adding the last two, and this is followed in Baxter/Baxter-Sagart's system.
39 See Karlgren (1956: 9-11) for a long list of such pairs.
40 Sagart and Baxter (2012) is written in response to Mei (2012) to defend *N- against *s-. See Zev Handel (2012) for a review of Mei Tsu-lin (2012) versus Sagart and Baxter (2012).

distributed (see Matisoff 2003: 87-104).[41] They are sometimes found within the same language, even in one and the same etymon such as Written Tibetan mnam 'have an odor' (intransitive) and snam 'sniff something' (transitive). Old Chinese cannot be compared with any TB language at face value to confirm or deny either *N- or *s-. This is because, one the one hand, parallels of either prefix are readily encountered, and on the other hand, the difficulty of determining the origin of voicing alternation exists commonly in TB languages as well, e.g., in Tibetan (Jacques 2012), since *s- sometimes leaves as its trace devoicing. Sagart's (2003, 2006) proposal that the prenasalization in Old Chinese loanwords to Hmong-Mien reflects OC *N- is quite convincing.

As Sagart and Baxter (2012) explain, a strong advantage of reconstructing *hm- etc., voiceless nasals at OC stage, against *sm- etc., is that it leaves a space for *s- prefixed sonorant initials which can explain MC *s-* that appears in sonorant series. The contrast between a voiceless sonorant and a *s- prefixed one is illustrated in the following *xiesheng* series:

> 人 *rén* < *nyin* < ***niŋ*** '(other) person':: 信 *xìn* < *sinH* < ***s-niŋ-s*** 'truthful':: 身 {人+心 in Chu manuscripts} *shēn* < *syin* < ***n̥iŋ*** 'body, oneself' (Cf. Tibetan snying 'heart'):: 仁 *rén* < *nyin* < ***niŋ*** 'kindness':: 千 *qīan* < *tshen* < ***s.n̥ˤiŋ*** 'thousand':: 年 {人+禾 in bronze inscriptions} *nían* < *nen* < ***C.nˤiŋ*** 'harvest, year' (Cf. TB *niŋ, *s-niŋ 'year') (*ibid.*: 40-42) (Baxter-Sagart system writes a prefix of known functions with a hyphen, of unknown functions with a dot as stated in Sagart and Baxter 2012: 43).

Though rejected for the voicing alternation, the *s- prefix with its valency-increasing functions is well recognized in Baxter-Sagart system otherwise. For example:

> 食 *shí* < *zyik* < ***m-lək*** 'eat' :: 飤 *sì* < *ziH* < ***s-m-lək-s*** 'feed' (Baxter 2010: 173);
> 當 *dāng* < *taŋ* < ***tˤaŋ*** 'have the value of, rank with' :: 商 *shāng* < *syang* < ***s-taŋ*** ("to estimate is to give a value", Sagart and Baxter 2012: 45).

41 In fact, the best attested affixes in Tibeto-Burman derivational morphology are *s-, *m-, *a- (the last in Benedict 1972: 121-123, but reconstructed differently as *ʔa etc., with several proto-level variants in Matisoff 2003: 104-117). The *s- and *m- make a clear opposition of valency-decreasing vs. valency-increasing functions. The *a-/ *ʔV(C) has many distinct functions, including nominalization, marking kinship terms third person possessive or verb agreement, verb aspectual prefix (Matisoff 2003: 104-117).

2.2.1.8 Sources of MC *sy-*

MC *sy-* has multiple OC sources which include voiceless sonorants and clusters with *s- prefix: *hl- in Type B, (mentioned in 2.2.1.3 above, *hll- [in Type A] goes to *th-*), *hŋ- through palatalization, *s-K- also through palatalization (see 2.2.1.9 below) and the cluster *s-t-. The last is reconstructed when *sy-* appears in a series together with *t-* < *tt- (Type A) and *tsy-* < *t- (Type B). The ***s**-prefixation is neat when the alternation between *sy-* and *t-* or *tsy-* is concomitant with semantic relation, such as in:

> 識 *shí* < *syik* < ***s-tək*** 'to be aware':: same character *zhì* < *tsyi* < ***tək-s*** 'remember'

Some examples of ***s-t-*** > *sy-* in Baxter-Sagart (Baxter 2010: 170) are:

> 抍, 撜, 拯 *zhěng* < *tsyingX* < ***təŋʔ*** 'raise, rescue' :: 升 *shēng* < *sying* < ***s-təŋ*** 'rise' :: 登 *dēng* < *tong* < ***tˤəŋ*** 'rise':: 烝 *zhēng* < *tsying* < ***təŋ*** '(for steam) to rise'
> 書 *shū* < *syo* < ***s-ta*** ("*Shuowen*: 箸也从聿者聲 '書 shū means 'to write', the graph is composed of 聿 'brush' and 者, of which the latter is the phonetic'") :: 都 *dū* < *tu* < ***tˤa*** 'capital city' :: 煮 *zhǔ* < *tsyoX* < ***taʔ*** 'boil' :: 猪 *zhū* < *trjo* < ***tra*** 'pig'.

2.2.1.9 Palatalization of velar and uvular initials

It is generally agreed that when MC velar or nasal stops {*k-*, *kh-*, *g-*, *ng-*} and palatal sibilants {*tsy-*, *tsyh-*, *dzy-*, *sy-*, *zy-*, *ny-*} are found in the same *xiesheng* series, the latter originated from OC velar stops, viz., through velar palatalization. As will be illustrated below, no completely satisfying proposals on the conditioning factor for this sound change have been put forth thus far. I will notate such OC velar (and also uvular, [to be discussed below]) initials by writing "palatalizing" in parenthesis next to the OC word forms. The sound changes assumed are:

*k- > *tsy-*	*kʰ- > *tsyh-* *g- > *dzy-*	MC palatal affricates,
*ŋ- > *ny-*		MC voiced palatal nasal,
*hŋ- > *sy-*		MC voiceless palatal fricative

The developments of OC velar nasals *ŋ- and *hŋ- are asymmetrical: the voiced one becomes palatal nasal *ny-*, while the voiceless one loses its nasality and becomes *sy-*. Baxter (2010) suggests that *hŋ- (*ŋ̊- in his notation) first becomes *x-*, the regular MC reflex of *hŋ-, which then palatalizes to become *sy-*. An example of this is (175):

> 熱 *rè* < *nyet* < ***ŋet*** 'heat' :: 勢 *shì* < *syejH* < ***xet-s*** < ***ŋ̊et-s*** 'authority' :: 埶 *yì* < *nghjiejH* < ***ŋet-s*** (I!) 'establish' (with Baxter's own notation (I!) meaning 'irregular', indicating a velar initial in D-III word with a front vowel which should have become palatalized but remained a velar.)

Velar stops have occasional contacts with fricatives *sy*- and *zy*- as well as with affricates. Sagart and Baxter (2012: 46-50) recently proposed that ***s-k-** and ***s-g-** may be reconstructed respectively in such cases: presumably ***s-k**- first changed to ***s-tsy**- then became *sy*- (*ibid*.: 48):

> 翄 *chì* < *syeH* < ***s.k^{h}e-s** ‘wing’ :: 支 *zhī* < *tsye* < ***ke** ‘branch’
> 收 *shōu* < *syuw* < ***s-kiw** ‘collect, harvest’ :: 糾 *jiū* < *kjuw* < ***k(r)iw** ‘unite’
> 示 *shì* < *zyijH* < ***s-gijʔ-s** ‘show’ :: 視 *shì* < *dzyijX* < ***gijʔ** ‘look, see’ :: 祁 qí < *gij* < ***grij** ‘place name’. For the last two series, the causative/transitive function of *s- is evident.

Velar palatalization from OC to MC is rather marginal, compared to the regular palatalization of dental stop initials *t-, *t^{h}-, *d- etc. to palatal sibilants in Type B syllables (see 2.2.1.1 above); its conditioning factor is not entirely clear except that since MC palatal initials occur only in D-III syllables, it is given that the palatalizing velars are in OC Type B. Baxter (1992: 210-214) agreed with Pulleyblank (1962: 98-107) who proposed that front nuclear vowels such as *i, and *e caused palatalization. Some examples with front vowels are:

> 支 *zhī* <*tsye* < ***ke** ‘branch’ :: 技 *jì* < *gjeX* (chongniu III) < ***greʔ** ‘skill’
> 旨 *zhǐ* < *tsyijX* < ***kijʔ** ‘fine-tasting’ :: 稽 *qǐ* < *khejX* < ***khijʔ** ‘bow the head to the ground’
> 臣 *chén* < *dzyin* < ***gin** ‘servant’ :: 堅 *jīan* < *ken* < ***kin** ‘solid’

Front vowels as conditioning factors may seem natural, but this can hardly be established as a rule for OC because there are so many exceptions: cases of both a front vowel failing to cause palatalization and palatalization occurring before a non-front vowel. Baxter 1992 addressed both types of exceptions. Some examples of palatalization before a non-front vowel are:

> 赤 *chì* < *tsyhek* < ***k^{h}ak** ‘red’ :: 赫 *hè* < *xæk* < ***qqrak** or ***hŋŋrak** ‘flame, outstanding’
> 車 *chē* < *tsyhæ* < ***k^{h}a** ‘chariot’ :: 車 *jū* < *kjo* < ***k**(**r**)**a** ‘chariot’
> 順 *shùn* < *dzywinH* < ***gwən-s** ‘obedient’ :: 川, 巛 *chuān* < *tsyhwen* < ***k^{wh}**[**ə/a**]**n** ‘stream, river’ :: 巛 (坤) *kūn* < *khwon* < ***k^{wh}ən** ‘hexagram name, Kun’[42]

Baxter and Sagart now seem to suggest that front vowels are not the only possible explanation. They still consider velar initials before a front vowel that did not palatalize exceptions. For example 吉, *jí* < *kjit* < ***kit** ‘auspicious’ (I!), 輕 *qīng* <

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42 Baxter-Sagart Version 1.0 has ***l̥un-s** for 訓 *xùn* < *xjunH*, with *x*- being considered a case of a dialect development of the voiceless lateral; 川, 巛 *chuān* < *tsyhwen* is reconstructed ***t.l̥un** with *t.- accounting for the palatalization. But as illustrated above there are two words written with 川, 巛 which point to a velar-uvular series (GSR #422). See Park 2008 for a discussion of the 川 series.

khjieng < ***keŋ** 'light' (I!), 埶 *yì* < *ngjiejH* < ***ŋet-s** 'to plant' (I!) (2010: 168). For velars palatalizing before non-front vowels, however, they have introduced a *t- prefix which apparently causes palatalization. We find the following examples in the Baxter-Sagart version 1.0 lexicon.

出 *chuì* < *tsyhwijH* < ***t.k^{h}ut-s** 'bring, take out' :: 屈 *qū* < *khjut* < ***k^{h}ut** 'subdue'
什, 十 *shí* < *dzyip* < ***t.gəp** 'troop of ten men (什), ten (十)' :: 計 *jì* < *kejH* < ***k^{ʕ}ij-s** 'calculate'[43]
The *t- prefix is also used for palatalizing uvulars. See below.

Uvular stops have close contact with velar stops in *xiesheng* and word-family relations, so palatalization of uvular stops should also be expected. It is reasonable to assume that if a MC palatal is found in an unambiguous uvular *xiesheng* series then the palatal comes from a uvular. Analogously with palatalization of velar stops illustrated above, we may assume the following sound changes:

*q- > *tsy-*   *q^{h}- > *tsyh-*   *G- > *dzy-*

For palatals in mixed velar-uvular series, their OC origins are indeterminate between the two, velars and uvulars. For example, either ***q^{wh}ən** or ***k^{wh}ən** is possible for the above mentioned 川, 巛 *chuān* < *tsyhwen* and likewise, either ***G^{w}ən-s** or ***g^{w}ən-s** is possible for 順 *shùn* < *dzywinH*, because of the 川, 巛 series has a uvular initial word 訓 *xùn* < *xjunH*< ***q^{wh}ən-s** 'instruct' as well as a velar one 巛 (坤) *kūn* < *khwon* < ***k^{wh}ən** 'hexagram name, Kun'. This problem does not arise in Baxter-Sagart system, because in the latter all words in mixed series are reconstructed with uvular root initials. As with velar palatalization, we find in their lexicon the prefix *t- before a uvular that goes to a palatal affricate. Examples are:

處 *chǔ* < *tsyhoX* (*H*) < ***t.q^{h}aʔ**(-**s**) 'be at, (place, n.)' :: 虎 *hǔ* < *xuX* < ***q^{ʕh}raʔ** 'tiger'
飦 *qīan* < *tsyen* < ***t-qan** 'gruel' (*t with a hyphen in the original) :: 衍 *yǎn* < *yenX* < ***N-qanʔ** 'overflow'.

For palatal fricatives, the part of *y*- (palatal glide) descending from *G- (discussed above in 2.2.1.3) counts as a case of palatalization (Sagart and Baxter 2009: 229-230), and *q^{h}- as a possible source of *sy*- through palatalization before front vowels is uncertain (*ibid.*: 226, 229).

43 Baxter-Sagart reconstructs this word as a Zhi 脂 group word. Wang Li (2000: 1260) assigns this word to the Zhi 質 (*-it) group. Given the latter, since the MC has the *qu* tone, the coda can be reconstructed *-t-s, thus *kejH* < ***kkit-s**. If 十 is the phonophoric, this *-t-s should have come from *-p-s, i.e., ***kkit-s** < ***kkip-s**. See below 2.2.1.11 for *-p-s > *-t-s.

2.2.1.10 The coda *-r

The coda *-r is reconstructed as proposed by Starostin (1989 [2010]) and further developed in Baxter-Sagart system Version 0.98-1.0 (since 2008).[44] The *-r has been reconstructed in various systems in order to explain contacts between MC finals ending in -n and a vowel (-ø) or -j. Such contacts appear as split in *xiesheng* series and inter-rhyming between the traditional rhyme groups Yuan 元 (Baxter's [1992] *-an, *-un, *-en) and Ge 歌 (*-aj, *-oj); and also between Wen 文 (*-ɨn [now *-ən], *-un) and Wei 微 (*-ɨj [now *-əj], *-uj) or Zhi 脂 (*-ij). For example, 觶 *zhì* < *tsyeH* 'a kind of ritual vessel', a vowel-ending syllable occurs in the same *xiesheng* series with 單 *dān* < *tan* 'single', 彈 *dàn* < *danH* 'pellet' and 戰 *zhàn* < *tsyenH* 'battle' etc.; 播 *bō* < *paH* 'to sow' is in the same series with 番 *fā*n < *phjon* 'a turn', 藩 *fān* < *pjon* 'fence', 燔 *fán* < *bjon* 'burn' etc.; 輝煇 *huī* < *xjwɨj* 'bright' with 渾 *hún* < *hwon* 'chaotic' , 軍 *jūn* < *kjun* 'troop' etc.; 爾 *ěr* < *nyeX* 'you' and 璽 *xǐ* < *sje* 'seal' with 獮 *xǐan* < *sjenX* 'autumnal hunt'. Some characters have double readings without any difference in meaning, for e.g., 驒 is read *tuó* < *da* as well as *diān* < *ten*, and *tán* < *dan*, all of which mean 'bluish-black horse with white spots' in the *Shijing* (GSR #147); some words in the -n ~ - ø /-j alternation are semantically linked, in which cases, etymological relations are suspected.

Karlgren (1954) reconstructed *-r for MC open ending syllables that have *xiesheng* contacts with *-n > -n, assuming that these two codas were phonetically similar enough for *xiesheng* alternation and inter-rhyming: the *-r in his system was reconstructed for part of Ge, Wei, Zhi rhyme group words alternating with words ending in *-n; the codas for the former three groups otherwise were reconstructed *- ø (Ge) or *-d (Wei, Zhi) in his system. F.K. Li (1971) followed Karlgren except that he reconstructed the entire Ge group words as *-ar. Karlgren (1956: 18) gave the following pairs as examples of cognate words with alternation of *-n (> -n) and *-r (> -j/-ø).

牝 *b'i̯ən > *pìn* 'female' :: id. *b'i̯ər > *bì* 'female'
洗 *siən > *xiǎn* 'to wash' :: id. *siər > *xǐ* 'wash'
烜 *χi̯wăn > *xuăn* 'to sun, to dry in the sun' :: id. *χi̯uăr > *huĭ* 'sunlight'
難 *nân > *nàn* 'difficulty, disaster' :: 儺 *nâr > *nuó* 'to expel malign influences'.

Starostin (2010 [1989]: 224-226) disagreed with Karlgren's assumption that the traditional rhymes ending in *-n could have *xiesheng* and rhyme contact with *-r > -j/ ø. He proposed that a traditional rhyme group with *-n in fact contained two distinct rhymes, one with *-n, and another with *-r: *-r mainly goes to -n, but in

[44] I am grateful to Bill Baxter for explaining to me the methodological principle for reconstructing *-r, and bringing my attention to the recent Chinese translation of Starostin's 1989 book (2010).

dialects it goes to -j or -ø. Among words in the Yuan (*-an) group, he illustrates, 干 kân, 安 ʔân, 颜 ŋan belong to the *-an type; 單 tân 歎 thân 原 ŋwan to the *-ar type. He argues that these two rhymes do not contact each other in *Shijing* rhyming, and that the words ending in *-r often find Tibeto-Burman cognate words in *-r.[45] In Karlgren's reconstruction, the MC -n alternating with - ø /-j still comes from *-n, but in Starostin's, it comes from *-r.[46]

The Baxter-Sagart system (since "ver. 0.98" [2008]), follows Starostin, and further suggests that the change *-r > -j/ø occurred in a dialect spoken in Shandong peninsula, namely, the "Eastern dialect". This supposition is based on Han commentaries on W.S. classics. They cite for instance a line from Zheng Xuan 鄭玄 commentary to the *Liji*, "中庸 Zhongyong" chapter: "壹戎衣而有天下" '[King Wu] once and for all defeated Yi[n] and took possession of all under heaven', to which Zheng Xuan notes "衣讀如殷聲之誤也齊人言殷聲如衣" '*yī* [ʔəj] should be read as *yīn* [ʔər]. This is an error of pronunciation. The people of Qi pronunonuce *yīn* [ʔər] like *yī* [ʔəj] (2008 [2010]: 49). The following table summarizes the difference between Karlgren/F.K. Li and Starostin/Baxter-Sagart in the reconstruction of *-r:

Karlgren (1954), F.K. Li (1971)	Starostin (1989), Baxter-Sagart ver. 0.98-1.0	
*-n > -n	*-r > -n	(some dialects/ main development)
*-r > -j or -ø	*-r > -j or -ø	(some dialects/ Eastern dialect)

45 Matisoff (2003: 401-403) presents a Chinese comparanda to Tibeto-Burman etyma reconstructed with *-r, containing about 30 words chosen from about 60 originally proposed in Benedict (1972). As illustrated in the table below, there is significant overlap between Matisoff's suggested cognate words and those reconstructed with *-r in Baxter-Sagart version 1.0.

Chinese-Proto Tibeto-Burman cognates (Matisoff 2003)	Baxter-Sagart ver. 1.0 (2011)
鴳 *yàn*	*ʔa:r *ʔˤ<r>ar-s 'a kind of quail'
燔 *fán*	*pwa(:)r *bar 'burn, roast'
輝 *hūi*	*hwa:r *q^{wh}ər 'bright, brilliant'
翂 *fēn*	*pur ~ *pir *pər 'fly (v.), soar'
鮮 *xǐan*	*sar *serʔ 'rare, few'
酸 *suān* *su:r ~	*swa:r *sˤor 'sour'
演 *yǎn*	*ya:r *lerʔ 'flow out, extend'

46 Starostin also noted that the *-r subgroup lacked Division II words, and this may be because the D-II medial *-r- and coda *-r were not compatible in an OC syllable. This observation is apparently denied in Baxter and Sagart's reconstruction; after going through the entire GSR lexicon and more using the given criteria for distinguishing *-r and *-n, they reconstruct many words in the "System 1.0" lexicon with both medial *-r- and coda *-r.

An example of -n ~ -j/ø dialect variation originating from *-r in the Baxter-Sagart system is: 獻 *xiàn* < *xjonH* ‘offer sacrifice’, which has another reading as *suō* < *sa* (素何切) ‘libation’ recorded in the *Guangyun*: these reflect *-r developing into *-n and *-j (> ø) in different OC dialects, thus ***ŋ̊ar-s** > *xjonH* > *xìan* and ***s-ŋˤar** > ***saj** > *sa* . Accordingly, two other words in the same series are reconstructed with *-r: 甗 *yàn*< *ngjonH* < ***ŋar-s** ‘boiler’ and 戲 *xì* < *xjeH* < ***ŋ̊(r)ar-s** ‘entertain’ (Baxter 2010: 175).

Baxter and Sagart uncover cases of *-r through word-family relations when graphic connections are absent. Baxter (2010) proposes that 水 *shuǐ* < *sywijX* < ***s.turʔ** ‘water’ and 準 *zhǔn* < *tsywinX* < ***turʔ** ‘level’ are etymologically related. Baxter identifies the root with 沝 *zhuǐ* < *tsywijX* < ***turʔ** ‘water’, recorded in the *Jiyun* 集韻, glossed “閩人謂水曰沝” ‘People in Min region pronounce 水(*sywijX*) as 沝 (*tsywijX*)’. The latter is compared to Amoy /tsui3/ for ‘water’ (171-172).

2.2.1.11 The post-codas *-ʔ and *-s, and *-s as a suffix

The OC sources of MC *shang* and *qu* tones are reconstructed as *-ʔ and *-s respectively. MC *qu* tone words that have *xiesheng* and word-family relation with *shang* tone words are reconstructed with *-ʔ-s as in Baxter-Sagart system version 1.0. In such cases the *-ʔ is assumed to be part of the root final, and *-s to be suffixal. See below the *-s suffix for examples. The *ping* tone is unmarked and the ‘*ru* tone’ endings, i.e., the voiceless stop endings *-p, *-t, and *-k remained unchanged from OC to MC, except when they are followed by the post-coda *-s.

The post coda *-s is also a suffix which carries multiple functions such as: deriving verbs out of nouns (viz., denominal), deriving nouns out of verbs (viz., deverbal), transitivizing, intransitivizing and semantically intensifying. As a verb suffix, it generally appears to be valency-increasing, that is, cases of *-s with transitive/causative, intensified and outer-directed meanings are much more frequently encountered than those with intransitive or stative and inner-directed meanings. As illustrated below, it is possible to delineate these various functions of *-s through the cognate pairs presented in Karlgren (1956) with his original glosses.[47]

47 Karlgren did not distinguish in his OC reconstruction system the conditions which gave rise to MC tones, although it is clear that he recognized the morphophonemic role of the OC origin of the *qu* tone.

***Denominal** *-s*

旬 *xún* < *zwin* < ***s-g^{w}in** ‘all around, a round, a decade (of days)’ :: 徇 *xùn* < *zwinH* < ***s-g^{w}in-s** ‘go everywhere, all around’ (p. 6)
府 *fŭ* < *pjuX* < ***poʔ** ‘the delivery place, repository’ :: 付 *fù* < *pjuH* < ***poʔ-s** ‘deliver’ (p. 6)
種 *zhǒng* < *tsyowngX* < ***toŋʔ** ‘seed, different kinds of grain’ :: 種 *zhòng* < *tsyowngH* < ***toŋʔ-s** ‘to sow’ (p. 9)

***Deverbal or nominalizing** *-s*

奉 *fèng* < *phjowngX* < ***p^{h}oŋʔ** ’to receive’ :: 俸 *fèng* < *phjowngH* < ***p^{h}oŋʔ-s** ’(what is received), salary’ (p. 9)
陳 *chén* < *drin* < ***lrin** ‘set forth, arrange’ :: 陳 *zhèn* < *drinH* < ***lrin-s** ‘battle array’ (p. 6)
傳 *chuán* < *drjwen* < ***drawn** ‘to transmit’ :: 傳 *zhuàn* < *drjwenH* < ***drawn-s** ‘a record’[48] (p. 6)
鍥 *qiè* < *khet* < ***kk^{h}et** ‘to cut’ :: 契 *qì* < *khej* < ***kk^{h}et-s** ‘script notches’ (p. 11)

***Transitivizing or causative** *-s*

遠 *yuǎn* < *hjwonX* < ***G^{w}anʔ** ‘far, distant’ :: 遠 *yuàn* < *hjwonH* < ***G^{w}anʔ-s** ‘to keep far from, leave’ (p. 6)
近 *jìn* < *gjɨnX* < ***gərʔ** ‘near’ :: 近 *jìn* < *gjɨnH* < ***gərʔ-s** ‘to be near to’ (p. 6)
先 *xiān* < *sen* < ***ssər** ‘before’ :: 先 *xiàn* < *senH* < ***ssər-s** ‘to go before, precede’ (p. 6)

***Intransitivizing** *s-*

盛 *chéng* < *dzyeng* < ***deŋ** ‘to load’ :: 盛 *shèng* < *dzyengH* < ***deŋ-s** ‘ample, abundant’ (p. 8)

***Intensifying** *-s*: in the following examples there seems to be no change in syntactic valency, but the derived variant is semantically more intensive or outer-directed.

質 *zhì* < *tsyit* < ***tit** ‘substance, substantial matter’ :: 質 *zhì* < *trijH* < ***trit-s** ‘a pledge, a security given, a hostage’ (p. 16)
受 *shòu* < *dzyuwX* <***duʔ** ‘to receive’ :: 授 *shòu* < *dzyuwH* < ***duʔ-s** ‘hand over, give’ (p. 8)
說 *shuō* < *sywet* < ***hlwat** ‘to speak’ :: 說 *shuì* < *sywejH* < ***hlwat-s** ‘to exhort’ (p. 11)
發 *fā* < *pjot* < ***pat** ‘to throw out’ :: 廢 *feì* < *pjojH* < ***pat-s** ‘cast aside’ (p. 11)
出 *chū* < *tsyhwit* < ***k^{h}wət** (palatalizing, Baxter-Sagart 1.0 ***t.k^{h}ut**) ‘to go out, bring out’ :: 出 *chuì* < *tsyhwijH* < ***k^{h}wət-s** (palatalizing, *ibid.*, ***t.k^{h}ut-s**) ‘bring out, take out’ (p. 12)

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48 Baxter-Sagart Version 1.0 has 傳 *chuán* < ***Cə-m-tron** :: 傳 *zhuàn* < ***m-tron-s** with a voiceless root initial ***t**-. The root is identified with 專 *zhuān* < ***ton** ‘exclusively’. The prefix ***m**- in their system has a ‘volitional’ meaning, and it causes voicing of the following initial.

聞 *wén* < *mjun* < ***mən** ‘to hear’ :: 問 *wèn* < *mjunH* < ***mən-s** ‘inquire, fame’ (p. 6)

MC *qu* tone words that have *xiesheng* and etymological connections with ‘*ru* tone’ words are reconstructed with their corresponding voiceless stop endings accompanied by the post-coda *-s. Note the following examples for the *-ts ~ *-t alternation:

至 *zhì* < *tsyijH* < ***tit-s** ‘arrive, ultimate point’ :: 窒 *zhì* < *trjt* < ***trit** ‘block’
外 *wài* < *ngwajH* < ***ŋŋʷat-s** ‘outside’ :: 月 *yuè* < *ngjwot* < ***ŋʷat** ‘moon’

Examples for the *-ks ~ *-k alternation are:

復 *fù* < *bjuwH* < ***buk-s** ‘repeatedly’ :: 復 *fù* < *bjuwk* < ***buk** ‘return’
賜 *cì* (< *sì*) < *sjeH* < ***slek-s** ‘grant’ :: 易 *yì* < *yek* < ***lek** ‘exchange’

MC *qu* tone words that ought to be reconstructed with *-ps by their *xiesheng* connections with words with *-p behave like words with *-ts in the *Shijing* rhyming; they rhyme with *-t or *-ts, and not with *-p. This suggests that the *-ps merged with *-ts in the *Shijing* phonology. (See Baxter 1992: 309-11 and F.K. Li 1971 [1982]: 43-44, 56-57. F.K. Li reconstructs *-ps as *-bh and *-ts as *-dh, so the change *-ps > *-ts corresponds to Li’s *-bh > *-dh.) For example, the word *nèi* 內 ‘inner’ which is clearly related to 納 *nà* < *nop* < ***nnəp** ‘take in, enter’ rhymes with *-ət, thus we reconstruct 內 *nèi* < *nwojH* < ***nnət-s** < ***nnəp-s**. The word *xiè* 泄 ‘scatter’ is graphically connected with 葉 *yè* < *yep* < ***lap** ‘leaf’, but it rhymes with *-at and it also has *-t* in MC. It is probable that the post-coda *-s was lost before MC. Thus: 泄 *xiè* < *sjet* < ***slat** < ***slat-s** < ***slap-s**. Based on this observed pattern we can restore the OC *-p for MC *qu* tone words. As F.K. Li (*ibid.*: 57) noted *gài* < *kajH* 蓋 ‘cover, cap’ seems to be related to 盍 *hé* < *hap* < ***ggap** ‘close (a box)’, so we can give the former the two stages of OC ***kkat-s** < ***kkap-s**. (The character 盍 is registered in the *Shuowen* as 盇, thus the graphic relation between the two words in question is uncertain.)

The character 灋, the old form of 法 which normally stands for *fǎ* ‘law, rule’ is used in a repeated line in several inscriptions from mid-to-late Western Zhou period (W. Zhou hereafter) for the meaning ‘reject, abandon’.

苟 (敬) 夙 (夙) 夜勿灋朕令 (mid-W. Zhou, MWX 1.240, also, late W. Zhou, MWX 1.386)
Be respectful morning and night and do not reject (i.e, neglect) my (the king’s) charge.

In fact, our interpretation of this otherwise puzzling character usage is based on the correspondence of this line to the following lines from the *Shangshu* and *Shijing* in which *fǎ* 灋 corresponds to *fèi* 廢 'abolish, abdicate' (Chen Chusheng 2004: 897):

> 予不敢廢乃命 *Shangshu*, "Luogao 洛誥"
> I dare not neglect your charge.
> 無廢朕命，夙夜匪解 *Shijing*, "Daya 大雅", 'Han yi 韓奕' (Mao 261)
> Do not neglect the king's charge; morning and night never slacken.

The relation between these two words is conventionally stated in terms of phonetic loan, viz., *fǎ* 灋 is 'loaned (or interchangeable) for' *fèi* 廢. The same usage of the character is 灋 found in the Shuihudi late W.S. manuscripts. It is not reasonable to designate an early W. Zhou character usage such as this as a 'loan' for its corresponding character in received early texts. As the 'proper' usage implies historical legitimacy, the direction of loan may be the opposite. If the expression 'loan' or 'interchangeability' is simply a loose term that refers to the (probable) phonological relation itself of the two words involved, the precise nature of the relation has to be further explained. Compare the MC and OC of *fǎ* 灋 and *fèi* 廢:

> 灋 *fǎ* < *pjwop* < ***pap** 'law, rule'
> 廢 *fèi* < *pjwojH* < ***pat-s** 'abolish, abdicate, abandon' (Cf. 發 *fā* < *pjwot* < ***pat** 'put forth')

The *-p of *fǎ* and *-t(-s) of *fèi* make these two words phonologically incompatible. One possibility is that the former simply had the meaning 'abandon, abolish etc.' which no longer survives in received literature. In other words, the two alternating words have no phonological relation but are just synonyms. Another possibility, which is more interesting than the first and which seems quite plausible is that the *fǎ* < ***pap** 'law, rule' had a morphological derivative ***pap-s** meaning 'rule out, outlaw > abandon'. This word with *-ps would have become homophonous with the synonymous word 廢 *fèi* < ***pat-s** at some point. And thus the latter came to be used interchangeably with the former eventually displacing it in the received standard orthography. This is another case where excavated manuscripts (viz., the Shuihudi) preserve the old character usage lost in the received standard; we ought to first examine how a manuscript character usage fits with other OC sources in the phonological pattern of alternation rather than just assume it to be an invention at the time and place of the manuscript production.

2.2.1.12 Inventories of simple initials and rhymes

The following is the inventories of simple initials and rhymes in our OC reconstruction system.

Initials (with orthographic single *vs*. double consonants corresponding to MC Division-III *vs*. Division I, II, IV)

labials	*p-	*pʰ-	*b-	*m-	*hm-
dentals	*t-	*tʰ-	*d-	*n-	*hn-
liquids	*l-	*hl-	*r-	*hr-	
sibilants	*ts-	*tsʰ-	*dz-	*s-	*z-
velars	*k-	*kʰ-	*g-	*ŋ-	*hŋ-
labio-velars	*kʷ-	*kʷʰ-	*gʷ-	*ŋʷ-	*hŋʷ-
uvulars	*q-	*qʰ-	*ɢ-		
labio-uvulars	*qʷ-	*qʷʰ-	*ɢʷ-		

Rhymes

*-ə		*-əŋ	*-ək
Zhi 之		Zheng 蒸	Zhi 職
*-əj	*-ər	*-ən	*-ət
*-wəj	*-wər	*-wən	*-wət
Wei 微	微/文	Wen 文	Wu 物
		*-əm	*-əp
		*-im	*-ip
		Qin 侵	Qi 緝
*-a		*-aŋ	*-ak
Yu 魚		Yang 陽	Duo 鐸
*-aj	*-ar	*-an	*-at
*-waj	*-war	*-wan	*-wat
		*-en	*-et
Ge 歌	歌/元	Yuan 元	Yue 月, Ji 祭
		*-am	*-ap
		*-em	*-ep
		Tan 談	Ye 葉
*-aw			*-awk
*-ew			*-ewk
Xiao 宵			Yao 藥
*-u		*-uŋ	*-uk
*-iw		Dong 冬	*-iwk
You 幽			Jue 覺
*-o		*-oŋ	*-ok
Hou 侯		Dong 東	Wu 屋
*-ij		*-in	*-it
Zhi 脂		Zhen 真	Zhi 質
*-e		*-eŋ	*-ek
Zhi 支		Geng 耕	Xi 錫

2.2.2 Two notes

2.2.2.1 The uvulars

The reconstruction of the uvulars *q-, *q^h- and *G- neatly accounts for the following distributional facts, *xiesheng* phenomena and the MC phonetics surrounding the velar and laryngeal initials.

(a) The *hj-* (*yusan* 喻三, also called *yun* 云), a voiced palatal glide has *xiesheng* contact with the velar/laryngeal initials; therefore it ought to be a voiced guttural of some sort in OC.
(b) The *hj-* occurs only in D-III.
(c) The *g-* (*qun* 群) also occurs only in D-III. (So MC *g-* always implies *gj-*; we do not need the latter notation when we refer to it as an initial category.)
(d) The *h-* (*xia* 匣) occurs only in D-I, II, IV. This initial is apparently involved in a complementary distribution with either *hj-* or *g-*, or somehow with both.
(e) The MC rhyme table phonology defines the {*k-*, *kh-*, *g-*} as *yayin* 牙音 'velar sound' and the {*ʔ-*, *x-*, *h-*} as *houyin* 喉音 'throat sound'. The latter is further back in the point of articulation than the former and the OC system should account for this distinction in some way.
(f) The *yayin* and *houyin* sets make *xiesheng* contact with each other. Note that words with velar initials are far more numerous than those with laryngeal initials; so the *xiesheng* contact across the two sets usually appear as frequent or not infrequent (depending on one's perception) inclusion of a relatively small number of words with the {*ʔ-*, *x-*, *h-*, *hj-*} initials in an overall velar series. The precise relation among the last four or that between these and the velar series is hard to measure by *xiesheng* contact alone.

To understand the significance of Pan Wuyun's uvulars we have to discuss how these facts (a)–(f) have been dealt with in earlier reconstruction systems.

F.K Li's (1971 [1982]) treatment for the (e)-(f) is to project the *ʔ-* and *x-* back as OC *•- and *h- respectively; these two do not present the problem of skewed distribution like some others. He assumes that they can have *xiesheng* contact with velar stop series despite the phonetic differences such as velar *vs.* further back and stop *vs.* fricative. This is followed in Baxter 1992 using different notations.

Li attempted to account for the distribution among *hj-*, *g-*, *h-* and their *xiesheng* contact (a-d) by reconstructing one voiced stop *g- for all the three: the *g- split into the three MC initials by the combination of two conditioning factors, the *g-/gw- (i.e., g^w) and the D-III/ non-D-III distinction. He noted the fact that *hj-* occurs predominantly in *hekou* finals, so the distinction between MC *g-* and *hj-*

which are both exclusively in D-III can be reconstructed basically as that between *g(j)- and *gw(j)-. The origin for the MC *g*- in *hekou* syllables is then distinguished from the latter by the notation -ji- (contrasting with simple -j-). Li gives the rules of the developments as follows (p. 18). The MC initials are converted to Baxter's notation.

> *gj- > *gj-* (*qun* 群, *kaikou*, D-III)
> *g- > *h-* (*xia* 匣, *kaikou*, D-I, II, IV)
> *gwj- > *hjw-* (*yusan* 喻三, *hekou*, D-III)
> *gwji- > *gjw-* (*qun* 群, *hekou*, D-III)
> *gw- > *hw-* (*xia* 匣, *hekou*, D-I, II, IV)

Li explains that the *yusan kaikou* syllables are due to irregular loss of the *-w-, appearing in grammatical function word such as *yǐ* < *hjiX* 矣 'perfective aspect marker' and *yān* < *hjen* 焉 'wherein, therein' or in words with labial or rounded ending by dissimilation such as *xiāo* < *hjew* (*-aw) 鴞 'bird name' (p.18).

Ting Pang-hsin (1977) points out that Li's *-j-/ *-ji- distinction for *hj*- and *g*-initials in *hekou* syllables is not only artificial but it also conflicts with the rhyme distinctions that the same notation is used to account for within Li's reconstruction system. One of Ting's examples is the following set of three words in OC D-III of Yang 陽 rhyme group (*-jang in Li's system): *kuáng* < *gjwang* 狂 'crazy' :: *yǒng* < *hjwæng* 永 'eternal':: *wáng* < *hjwang* 王 'king'. The word *kuáng* 狂 has MC *gjw-* (*qun* 群, *hekou*) so it has to be reconstructed as ***gwjiang** with -ji- to be distinguished from *wáng* 王 which has MC *hjw-* (*yun* 云) and is reconstructed with simple –j- as ***gwjang** in Li's system. But *-jiang is at the same time reconstructed in Li's system for MC *-jæng* (*geng* 庚 rhyme, D-III) contrasting with *-jang which gives MC *-jang* (*yang* 陽 rhyme, D-III). This results in the same OC form ***gwjiang** splitting into two completely different MC syllables *gjwang* (*kuáng* 狂) and *hjwæng* (*yǒng* 永) (p. 174).

Ting also points out that words in the same *xiesheng* series as *yǐ* 矣 and *yān* 焉 such as *xī* < *xi* 誒 'sigh' and *yān* < *hjen* 漹 'river name' that are non-grammatical function words are all in *kaikou*, implying that the *yusan kaikou* words cannot really be treated as exceptional or marginal, however small in number (p. 173). Ting's proposal for resolving these problems is to set up another phoneme *ɣ-, a voiced laryngeal fricative which pairs up *hj*- and *h*- as the D-III/non D-III counterparts. The *ɣ- contrasts with *g- which is reserved for *g*-. Thus the *g- in Ting's scheme is left to occur only in D-III. Ting gives the following rules (p. 176).

> *gj- > *gj-* (*qun* 群, *kaikou*, D-III)

*gwj- > *gjw-* (*qun* 群, *hekou*, D-III)
*ɣj- > *hj-* (*yusan* 喻三, *kaikou*, D-III)
*ɣwj- > *hjw-* (*yusan* 喻三, *hekou*, D-III)
*ɣ- > *h-* (*xia* 匣, *kaikou*, D-I, II, IV)
*ɣw- > *hw-* (*xia* 匣, *hekou*, D-I, II, IV)

This reconstruction implies that the initials *hj-* < * ɣ(j)- and *h-* < *ɣ- originating from the same phoneme should make more frequent *xiesheng* contact with each other than they do with the velar stop series. But it does not turn out quite that way. It is not arguable that *h-*, besides contacting itself, commonly contacts the velar series, especially with *k- as words with the latter is more numerous than the others, *g-* and *kh-* in the same stop series. Instead of examining OC *xiesheng* series Ting draws on Nicolas Bodman's estimation of the number of contacts among the initials in question in the sound glosses in the Eastern Han lexicographical work *Shiming* 釋名. Ting says "[a]s Nicolas Bodman (1954: 24) pointed out there are twelve contacts in the sound glosses between Anc. *g-* 群 and *kj-* 見三, but none between Anc. *g-* and ɣ- 匣 (i.e., *h-* in our notation) (p. 176)". The point Ting makes here is that while *g-* and *kj-* go back to the same series in OC, viz., the velar stop, the *g-* and *h-* cannot go back to the same phoneme: the data would make sense if *g-* was a stop but *h-* a fricative in OC.

But what about the fact that *h-* makes ten contacts with *k-* as shown in the table (p. 177) which Ting gathered from Bodman's data? This shows on the contrary that *h-* is actually closely related to the velar stop series, and the absence of the *h-* ~ *g-* alternation in this particular source is due to the fact that there are fewer words with *g-* than those with *k-* in general.

Ting adds as a support to tracing the *hj-* and *h-* to a single origin that Southern Min dialects have some words with /h/ corresponding to these two contrasting with /k/ or /k'/ corresponding to *g-*: /hun/ (:: *hj-*) 雲 'cloud', /hng/ (:: *hj-*) 園 'garden'; /huĩ ~ huã ~ huaĩ/ (:: *h-*) 橫 'horizontal', /he/ (:: *h-*) 夏 'summer' *versus* /kio/ (:: *g-*) 橋 'bridge', /ku/ (:: *g-*) 舅 'maternal uncle', /ki'am/ (:: *g-*) 儉 'thrifty'. Ting also notes that Min dialects have some words with /k/ that correspond to MC *h-* such as /kiã/ 行 'walk' and /kwã/ 寒 'cold'. Ting says "[t]his is a noteworthy phenomenon that reveals that Arc. *ɣ- might have had an occlusive origin (p. 178)." It is not clear what exactly he means by this: does he mean an earlier stage of *ɣ- or a second origin of MC *h-*? The latter possibility, which Li Rong (1965) also suggested earlier, is what Shao Rongfen (1991) was later going to pursue. Shao's idea on the relation among *hj-*, *h-* and *g-* was then going to be adopted in Pan Wuyun's uvulars.

Meanwhile Baxter 1992 reconstructed a single source *g- for *g*- and *h*-: the *g- remained a stop in D-III while it became a fricative in D-I, II, IV. Baxter gives *w- for *hj*- for the fact that the latter is mostly in *hekou* syllables. He gives *ɦ- for its *kaikou* counterpart while considering it marginal and of questionable status (p. 210). Thus Baxter's *w- occurs only in D-III.

*gj- > *gj*- (*qun* 群, *kaikou*, D-III)
*g- > *h*- (*xia* 匣, *kaikou*, D-I,II,IV)
*gwj- > *gw*- (*qun* 群, *hekou*, D-III)
*gw- > *hw*- (*xia* 匣 *hekou*, D-I,II, IV)
*wj- > *hjw*- (*yusan* 喻三, *hekou*, D-III)
*ɦj- > *hj*- (*yusan* 喻三, *kaikou*, D-III)

Baxter also suggests to reconstruct a second source of MC *h*-, viz., a voiced laryngeal fricative *ɦ- based on southern Min dialects which have zero initial in some words contrasting with the velar stop. He cites the following example from Li Rong 1965 (p. 210).[49]

	hòu 厚 'thick'	*hòu* 後 'later'
Baxter's OC	*g(r)oʔ	*ɦ(r)oʔ
MC	*huwX*	*huwX*
Fuzhou, Amoy	/kau6/	/au6/
Chaozhou	/kau4/	/au4/

So the MC *h*- has two sources, according to Baxter, *g- and *ɦ-, but precisely how are individual *h*- words to be sorted out between the two origins when the Min data do not show the k/zero distintion? Cases of the Min zero initial are very few and in fact even cases of the velar correspondence to the MC *h*-, (i.e., cases considered to reflect OC *g-) are relatively few compared to cases of the fricative correspondence, viz., /h/ in Min dialects which represents the literary pronunciation

49 MC *h*- corresponds to a fricative /h/ in the majority of cases (Shao Rongfen 1991: 125). Some words have /k/ in lower register tones which suggests an earlier *g-. Li Rong's (1965) focus is on the latter. Li's point of argument is that the distributional gap of MC *g*- (< *g-) (only in D-III) is to be filled in by part of MC *h*- words (D-I, II, IV) which by the Min dialect evidence go back to a voiced velar stop *g-. For Baxter the velar stop correspondence is taken for granted.

layer (i.e., the pronunciation of the northern standard dialect varieties which directly reflects MC *h*-). The Min dialect correspondences /k/ ~ /ø/ to MC *h*- do suggest the probability of a non-velar stop origin of *h*-, but in order to actually posit it in a reconstruction system of OC we must have a way of using genuine OC sources such as the *xiesheng* series.

Shao Rongfen (1991) supports, as he explains, F.K. Li's earlier unpublished proposal which was later supported by Luo Changpei (1939) that MC *h*- has two origins, one *g- and the other *ɣ- shared by MC *g*- and *hj*- respectively: the former splits into *g*- and *h* - conditioned by the D-III *vs*. non-D-III distinction and the latter likewise into *hj*- and *h*-.

> *gj- > *gj*- (*qun* 群, D-III)
> *g- > *h*- (*xia* 匣, D-I, II, IV)
> *ɣj- > *hj*- (*yusan* 喻三, D-III)
> *ɣ- > *h*- (*xia* 匣, D-I, II, IV)

(The *kaikou*/ *hekou* distinction is out of the question. The -w- can simply be added for the *hekou* counterparts.)

Shao explains that this reconstruction accounts for the infrequency of *xiesheng* contact between the *hj*- and the velar stop series and at the same time for the frequency of that between *h*- and the latter, i.e., the phonetic differences between *g- and *ɣ- as the sources of *g*- and *hj*- would explain the distance of the *hj*- from the velar series; the *g- as the velar side origin of *h*- would explain the latter's frequent contact with the velar series.

Shao Rongfen's contribution is his proposal for how to distinguish between the two OC sources for a given MC *h*- initial word. He suggests to assign either *g- or *ɣ- to a given *h*- word based on the *xiesheng* evidence, in particular, the presence or absence of an attestation of *xiesheng* contact with a velar stop series. Shao states this principle as follows (p. 119):

(a) One that has *xiesheng* relation with the velar stop series, i.e., {*k*-, *kh*-, *g*-} is assumed to go back to the *g- type together with the *g*-.
(b) One that does not have *xiesheng* relation with the stop series is assume to go back to the *ɣ- type together with *hj*-.
(c) One that has *xiesheng* relation with both the velar stop series and *hj*- follows the case that yields fewer exceptions.

Item (b) covers the cases of *h*- that are only found contacting *h*- itself and those that are found contacting any one of the members in the set {*x*-, *ʔ*-, *hj*-}. Item (c) assumes that an *h*- word in contact with *hj*- tends to have few or no contact with

the *k*- series and vice versa. It is significant that the choice of *ɣ- is based mainly on the absence of velar contact (negative, indirect evidence) rather than actual contact with *hj*- (positive, direct evidence). The underlying reasoning is that a *g-word is most likely to find an attestation of *xiesheng* contact with a velar series while a *ɣ- word (the shared origin of *hj*- and *h*-) may not always find an actual *xiesheng* contact with the *hj*- because words with a velar stop initial are far more numerous than those with *hj*-.[50]

Pan Wuyun (1997) takes issue with the phonetic value of the OC *ɣ- by the thesis of 'the two OC origins of *h*-' as well as that of the *x- (as in Baxter 1992 or its equivalents such as *χ- as in Karlgren's and *h- as in F.K. Li's systems), the source of MC *x*- (*xiao* 曉). Pan says that the phonemes *x- and *ɣ- should not make *xiesheng* contact with the *K- type initials to such a significant extent if they had the velar or laryngeal *fricative* values. He says that the phonetic relation between h- and k- is analogous with that between s- and t-; the latter pair does not have *xiesheng* relation and so the same should be true for the former (p. 21). The *ʔ- for *ʔ*- (*ying* 影) is also problematic, he says, because the glottal stop is a phonation type consonant (as opposed to articulation) dissimilar to velar stops, which can be treated as the zero initial; Sino-Japanese, Sino-Korean phonological systems and Chinese loan words in Vietnamese in all cases use the zero initial, not a velar stop to render the MC *ʔ*- (p. 10).

Pan Wuyun's proposal is to reconstruct *q- for *ʔ*-, *q^h- for *x*- and *G- for *hj*- and part of *h*- (i.e., the equivalent of Shao Rongfen's *ɣ-). Pan provides the revised rules of development of the three initials *g*-, *h*-, *hj*- as follows (p. 21).

*g- in D-III > *gj*- (*qun* 群)
*g- in D-I, II, IV > *h*- (*xia* 匣)
*G- in D-I, II, IV > *h*- (*xia* 匣)
*G- in D-III > *hj*- (*yusan* 喻三)

Pan Wuyun's reconstruction of the uvular set {*q-, *q^h-, *G-} implicates that the not-so-free but still significant contact among the two groups of initials {*ʔ*-, *x*-, *hj*-} and {*k*-, *kh*-, *g*-} is because of the phonetic similarity between the uvular and velar stops.

Pan Wuyun explains the development of these uvular stops into their corresponding MC initials as natural sound changes: the change from /qh/ to /h/

50 Shao estimates that there are about 499 words with *h*- among the words registered in the *Shuowen*, about 354 of which belong to the *g- type and about 145 to the *ɣ- type (p. 124).

(Pan's supposed phonetic value of the *x- xiao* 曉 initial), /G/ to /ɦ/ (Pan's supposed value of *h- xia* 匣 initial) and /q/ to /ʔ/ (i.e., zero) are all likely sound changes, viz., fricativization of the 'weak' stops and the general tendency for sounds that are 'difficult to pronounce' such as uvular stops to be lost by further backing or fronting (backing in the case of OC > MC) .

Pan believes that the predominance of the *hekou* syllables with the *hj-* is due to the tendency for a consonant with a back (presumably he means uvular or further back) point of articulation to become labialized. He speculates that the reason why the same thing did not happen with the other uvulars *q^{h}- and *q- is perhaps because these had already lost the uvular stop articulation becoming like their MC counterparts at the time the sound change *G- > *Gw- was taking place (p. 21). He supports his uvular reconstructions with plenty of Sino Tibeto-Burman cognate words that preserve the uvular stops in some cases as well as modern Chinese dialects and early Chinese loan words that preserve the trace of the uvular stops in the form of velar stops.

Baxter and Sagart in their system 0.97-1.0 adopt Pan Wuyun's uvulars, but with three significant modifications. One of these, viz., *G- > *y-* in part, was already discussed above in 2.2.1.3. The other two modifications are as follows: (i) they reconstruct uvular root initials for both MC {*k-*, *kh-*, *g-*} and {*ʔ-*, *x-*, *hj-*, *h-*} in cases where they are found in the same *xiesheng* series or seem to have word-family relations. The velar initials in such cases are preceded by a prefix *Cə.- which changes the following uvular root initial to a velar; (ii) they reconstruct *ʔ- as a second source of MC *ʔ-* (Ying 影), in addition to *q- when a MC *ʔ-* has no known *xiesheng* contact with other initials that are reconstructed as uvulars.

Baxter and Sagart believe that velar and uvular stops were not interchangeable in *xiesheng* phonophoric selections: the co-occurrence of MC velar initials and those of uvular origins within a *xiesheng* series is due to a "minor syllable" *Cə- preceding the uvular root initial. This *Cə.- is a minor syllable loosely attached to the root syllable, which disappears after it changes its following uvular root initial to a velar one. Sagart and Baxter (2009: 236-237) provide some cognate pairs such as the following:

> 歇 *xiē* < *xjot* < *q^{h}at 'cease, rest' :: 愒 *qì* < *khjet* < *Cə.k^{h}rat < *Cə.q^{h}rat 'to rest'
> 翁 *wēng* < *ʔuwng* < *q^{ʕ}oŋ 'old man' :: 公 *gōng* < *kuwng* < *Cə.k^{ʕ}oŋ < *Cə.q^{ʕ}oŋ 'father, prince'
> 影 *yǐng* < *ʔjæng* < *qraŋʔ 'shadow' :: 景 *jǐng* < *kjængX* < *Cə.kraŋX < Cə.qraŋʔ 'bright, image'

Examples such as these strongly suggest that the velar-laryngeal contacts, at least in part, are based on cognate relations, i.e, shared roots rather than on phonetic similarity alone. This velarizing prefix *Cə- is both phonetically and se-

mantically underdetermined, while its phonetic effect is clearly defined as changing a uvular stop into a velar stop. Since it targets specifically a uvular initial to change it into a velar, it appears to be little more than an unidentified phonetic conditioning factor for the sound change. I do not see the merit of reconstructing a both phonetically and semantically underdetermined prefix. Further, semantically related pairs such as these are only part of the cases of velar-uvular alternations and they could be regarded just as well as dialect cognate words if we take into account the inclination of uvulars to merge with velars as Pan Wuyun explained.

Sagart and Baxter (2009: 226-227) explain their *ʔ- contrasting with *q- : "As for MC '- [/ʔ/ (Ying 影)], when it shows no contacts with other Middle Chinese initials of possible uvular origin, we reconstruct it as *ʔ- rather than *q-. For example, we reconstruct 安 ān < 'an < *ʔˤa[n], because it seems to be used as a phonetic element only for words with MC '-. Moreover, while some words with MC initial '- are used to represent foreign words with stop initials, as early as the Western Han, 安 ān represents a zero initial in 安息 Ānxī...MC 'an-sik < * ʔˤa[n]-sək, a transcription of the name of the Arsacid dynasty of Parthia (ca. 247 BCE – 224 CE)...".

In this proposal, the method for distinguishing two origins of MC *ʔ*-, *ʔ- and *q- is essentially to see whether a *xiesheng* series contains only *ʔ*-, or it has *ʔ*- together with other MC initials pointing to uvulars such as *x*-, *h*-, *hj*(*w*)-. The former, i.e., cases of 'unmixed' MC *ʔ*- are reconstructed as *ʔ-; those of MC *ʔ*- alternating with *x*- < *qʰ, *h*- < *Gˤ-, *hj*(*w*)- < Gʷ- are reconstructed as *q-. This may seem to be analogous with the above explained method for distinguishing the two origins of MC *h*-, *g- and *G-, by the presence or absence of the MC initial's *xiesheng* contacts with velar series. But there is a very significant difference between them which, in my opinion, makes the use of *xiesheng* contact as the decisive factor justified for the case of *h*-, but not for Baxter-Sagart's *ʔ*-.

Divisions among MC initials in *xiesheng* series in general do not always indicate distinctions of the MC initials at OC stage. In order for the divisions to be confirmed as representing certain phonemic or phonetic distinctions, they have to be complemented primarily by distributional or phonetic facts that suggest separate origins of the MC initials involved. Relying on *xiesheng* contact alone can lead to spurious distinctions. Suppose there are three uvular stops *q-, *qʰ-, *G- in OC. Given the principle of homorganicity as the criterion for *xiesheng* interchange, words with any of the three initials can be written with the same phonophorics to form a *xiesheng* series. For a given word with *q-, for instance, it is not predictable a phonophoric of which variant, *q- itself, or the other qualified ones

*q^h- and *G- will be chosen to write it; it differs case by case, hence 'mixed' *xiesheng* series. At the same time, there would be some tendency for a graph of one initial (word) to be chosen for another word with the same initial, hence 'unmixed' *xiesheng* series. The association between a graph and its 'proper' pronunciation would not remain constant even during the same phonological period, because of interchanges among etymological and morphological variants. Thus an unmixed series may turn into a mixed one and vice versa. Overall, co-existence of mixed and unmixed series is well expected given the assumption of homorganicity as the *xiesheng* criterion, and unmixed series do not always represent separate phonemes. A word with *q- can appear either in a series mixed with *q^h- or *G-, or in a series in which all the other members are *q- as well. I am suggesting that Baxter-Sagart's *ʔ- may actually be *q- which happens to be in unmixed MC *ʔ*- series. In the case of MC *h*-, by contrast, whether or not a word with *h*- occurs in a velar series is reasonably taken to reveal its distinct OC origins; because *h*-, occurring in D-I, II, IV, is in complementary distribution with two initials, *g*- < *g- in D-III, and *hj*- < *G- in D-III; the former is described to belong to the *yayin* 'velar sound' category and the latter *houyin* 'throat sound' in the rhyme table and thus are reconstructed in OC as a velar and a uvular stop respectively. When there are sufficient distributional and phonetic facts supporting the two origins of *h*- like this, whether or not a *h*- initial word has contacts with velar stop initials should tell which class, *g- or *G-, it belongs to. In the case of the supposed two origins of *ʔ*- in Baxter-Sagart system, the supporting evidence for postulating a separate phoneme for unmixed *ʔ- xiesheng* series - a transcription of a foreign place name from the Western Han period - is not very convincing. If MC does not preserve any trace of the putative distinction between *ʔ- and *q-, one might then see if it is reflected in any systematic way in loan word phonological systems or modern Chinese dialects.

I will follow Pan Wuyun's assumption that velar and uvular stops do have occasional *xiesheng* contact with each other because of their phonetic similarity. The selection between *g- and *G- for a MC *h*- initial word will be made based on the *xiesheng* method established by Shao Rongfen (1991). Some examples of velar/uvular word reconstructions are as follows.

> *huáng* < *hwang* < ***gg^{w}aŋ*** 黃 'yellow' :: *héng* < *hwæng* < ***gg^{w}raŋ*** 横 'horizontal'

The reconstruction of the velar stop for these two *h*- words are due to the following velar initial words in the same phonophoric series:

> *guǎng* < *kwangX* < ***kk^{w}aŋʔ*** 廣 'broad' :: *kuò* < *khwak* < ***kk^{wh}ak*** 擴 'widen, extend' :: *kuàng* < *khwangH* < ***kk^{wh}aŋ-s*** 曠 'waste land'

Likewise the uvular for *huǎn* 緩 is due to the latter's graphic connection with *hj-* and *x-*:

> *huǎn* < *hwanX* < ***GGʷarʔ*** 緩 'slack' :: *yuán* < *hjwon* < ***Gʷar*** 援 'draw' :: *xuān* < *xjwon* < ***qʷʰar*** 諼 'deceive'

The uvular for *hū* 乎 is due to the connection with *x-*:

> *hū* < *hu* < ***GGra*** 乎 'sentence final particle' :: *hū* < *xu* < ***qqʰra*** 呼 var. 嘑 'call out' :: *hǔ* < *xuX* < ***qqʰraʔ*** 虎 'tiger'

2.2.2.2 A reconsideration of the 'Rounded vowel hypothesis'

The *-on in Baxter's system, now Baxter-Sagart system concerns part of *hekou* words in the traditional *-an (Yuan 元) group and likewise *-un concerns part of *hekou* words in the *-ən (Wen 文). The relation between *-ot and *-at (Yue 月), *-oj and *-aj (Ge 歌), *-or and *-ar (Ge 歌/Yuan 元), *-ut and *-ət (Wu 物), *-uj and *-əj (Wei 微), *-ur and *-ər (Wen 文/Wei 微) are parallel.

The MC *hekou* medial -w- in general occurs with velar/laryngeal initials. Apart from labial initials after which the -w- is non-distinctive, in most MC rhymes that have *kaikou*/ *hekou* counterparts, the contrast is found either exclusively or predominantly after velar/laryngeal initials. The following MC rhymes (represented by the *ping* tone rhymes) in particular have *hekou* syllables only with velar/laryngeal initials: -(w)ang (*tang* 唐), -j(w)ang (*yang* 陽), -(w)ong (*deng* 登), -(w)ɛng (*geng* 耕), -(j)(w)æng (*geng* 庚), -j(w) eng (*qing* 清), -(w)eng (*qing* 青),-(w)ing (zheng 蒸) (F.K. Li 1971 [1982]: 17, Baxter 1992: 236-37). These rhymes come from OC *-aŋ, *-əŋ and *-eŋ and their voiceless stop ending counterparts *-ak, *-ək, *-ek which in all cases have a velar ending and an unrounded vowel or coda. Words with and without the -w- are separated in *xiesheng* phonophoric series. This together with the dominant distribution of -w- after velar/laryngeal in MC system is accounted for by the reconstruction of labio-velar/uvular initials in Old Chinese.

But there are some MC rhymes that have the *kai*/*he* distinction after dental initials as well as velar/laryngeals. These rhymes go back to OC rhymes with dental codas such as *-an, *-at, *-aj, *-ar, *-ən, *-ət, *-əj, and *-ər: -a (*ge* 歌)/ -(j)wa (*ge* 戈), -an (*han* 寒) / -wan (*huan* 桓), -oj (*tai* 咍) / -woj (*hui* 灰), -(w)aj (*tai* 泰), -j(w)ej (*ji* 祭), -(w)ɛn (*shan* 山), -(w)æn (*shan* 刪), -(w)en (*xian* 仙), -on (*hen* 痕)/ -won (*hun* 魂) (F.K. Li 1971 [1982]: 17, Baxter 1992: 236-37).

Whereas words with velar endings rhyme with one another regardless of the -w- ,(e.g., *Kwaŋ (=K^{w}aŋ) rhymes with *Kaŋ. The K represents velar/uvular initials), the *hekou* syllables with dental initials, i.e., those that have dental initials and dental codas which we will write as *TwVn* (T: dental initials, V: vowel, n: dental coda) only rhyme with *hekou* syllables. The 'Rounded vowel hypothesis', originally proposed by Yakhontov (1960 [1986]) and adopted in Baxter 1992 system states that the reconstruction such as *Twan for dental initial words in MC *hekou* syllables that belong to the traditional *-an group does not adequately account for the fact that the *Twan does not rhyme with the *Tan or *Kan; therefore the former ought to be reconstructed instead with a different main vowel, viz., the rounded vowel *o. Likewise *Twən does not rhyme with *Tən or *Kən, so it is to be reconstructed as *Tun instead. The 'Rounded vowel hypothesis' thus separates *-on from *-an, *-ot from *-at, *-oj from *-aj, *-or from *-ar, *-un from *-ən, *-ut from *-ən, *-uj from *-əj, and *-ur from *-ər etc.

Let us discuss the *-an/*-on as a representative. The reason we prefer the reconstruction *Twan to *Ton despite the fact that the former does not rhyme with *Tan or *Kan is that there is no independent evidence for the distinction between the *-wa- and *-o- after velar/uvular initials as assumed in the 'Rounded vowel hypothesis' (RVH). An MC word in the syllable type *KwVn* that rhymes with those in *TwVn* should be reconstructed with a rounded vowel according to the RVH, e.g., *KwVn* < *Kon for a word rhyming with *TwVn* < *Ton; at the same time the *K^{w}an (= *Kwan) type syllable with a labio-velar initial is assumed to exist contrasting with *Kan in the system analogously with the *K^{w}aŋ contrasting with *Kaŋ. This means that any given syllable *KwVn* is assumed a priori 'ambiguous' with regard to which type, *K^{w}an or *Kon it goes back to, and that the selection between these two has to be based on whether the individual *KwVn* type word rhymes with the 'unambiguous' *-an (*kaikou* syllables with either K- or T-) or *-on (*hekou* with T-).

There are two major problems with this. First, apart from the fact that the *KwVn* rhymes with the *TwVn* < *Ton, it is hard to find evidence for one *KwVn* word not rhyming with another *KwVn*. Second, repeated words or different words with shared phonetic graphic components in the *KwVn* type in the *Shijing* rhyme with an 'unambiguous *-on' in one case and with an 'unambiguous *-an' in another. It is also notable that no trace of vowel contrast that corresponds the assumed *-wa-/*-o- distinction after velar or uvular initials is known to exist in Sino-Tibeto-Burman cognate words or early Chinese loan words in Tai, Vietnamese, Japanese and Korean. Note the following recurring phonophoric series. The unambiguous *-on/*-ot/*-or and *-an/*-at/*-ar by the RVH are marked by square brackets.

(i) 厥 series

The word *jué* 蕨 rhymes with two words with [*-ot] in a rhyme sequence in Mao 14. The rhyme words are given in the order they occur in the poem.

蕨 *jué* ***kwat** 'plant name'
惙 *chuò* ***trwat** [*-**ot**] 'worried'
說 *yuè* ***lwat** [***-ot**] 'content'

But the word *què* 闕 in Mao 91 rhymes with an [*-at] word.

達 *tà* ***tt^{h}at** [*-**at**] 'appearance of coming and going'
闕 *què* ***k^{h}wat** 'look-out tower'
月 *yuè* ***ŋwat** 'month'

The word *guì* 蹶 in Mao 114 rhymes with an [*-at] word.

逝 *shì* ***dat-s** [*-**at**] 'pass by'
邁 *mài* ***mmrat-s** 'proceed'
外 *wài* ***ŋŋwat-s** 'outside'
蹶 *guì* ***kwat-s** 'move'

(ii) The 卷 series

The word *juǎn* 卷 in Mao 26 rhymes with [*-on] words.

轉 *zhuǎn* ***trwanʔ** [*-**on**] 'turn around'
卷 *juǎn* ***krwanʔ** 'roll'
選 *xuǎn* ***swanʔ** [***-on**] 'select'

But the word *quǎn* 綣 in Mao 253 rhymes with [*-an] words.

安 *ān* ***qqan** [*-**an**] 'secure'
殘 *cán* ***ddzan** [*-**an**] 'damage'
綣 *quǎn* ***k^{h}wanʔ** (as in *qiǎn quǎn* 繾綣 'stick together')
反 *fǎn* ***panʔ** 'turn back'
諫 *jiàn* ***kkran-s** [*-**an**] 'admonish'

(iii) 活 series

The word *kuò* 闊 rhymes with an [*-ot] word in Mao 31.

闊 *kuò* ***kk^{h}wat** 'far apart'
說 *shuō* ***hlwat** [*-**ot**] 'say'

But the *kuò* 括 in Mao 218 rhymes with [*-at] words.

舝 *xiá* ***ggrat** [*-**at**] ‘linch pin’
逝 *shì* ***dat-s** [*-**at**] ‘pass by’
渴 *kě* ***kk^{h}at** [*-**at**] ‘thirsty’
括 *kuò* ***kkwat** ‘bind’

(iv) 官 series
The word *guǎn* 管 in Mao 42 rhymes with an [*-on] word.

孌 *luán* ***rwanʔ** [*-**on**] ‘beautiful’
管 *guǎn* ***kkwanʔ** ‘pipe, flute’

The word *guǎn* 館 in Mao 250 rhymes with [*-on].

館 *guǎn* ***kkwanʔ** ‘lodge’
亂 *luàn* ***rrwan-s** [*-**on**] ‘messy’
鍛 *duàn* ***ttwan-s** [*-**on**] ‘hammer’

But the same word *guǎn* 館 in Mao 75 rhymes with an [*-an] word.

館 *guǎn* ***kkwanʔ** ‘lodge’
粲 *cān* ***tts^{h}an** [*-**an**] ‘meal’

The word *guǎn* 痯 in Mao 169 rhymes with an [*-ar] word.

幝 *chǎn* ***t^{h}arʔ** [*-**ar**] ‘shabby’
痯 *guǎn* ***kkwanʔ** ‘tired’
遠 *yuǎn* ***Gwanʔ** ‘far’

(v) 夗 series
The word *yuàn* 怨 in Mao 58 rhymes with an [*-ar] word.

怨 *yuàn* ***qwar-s** ‘resent’
岸 *àn* ***ŋŋar-s** [*-**ar**] ‘bay’
泮 *pàn* ***pp^{h}an-s** ‘water front’

But the *wǎn* 婉 in Mao 94 rhymes with an [*-on] word.

漙 *tuán* ***ddwan** [*-**on**] ‘plentiful’
婉 *wǎn* ***qwarʔ** ‘beautiful’
願 *yuàn* ***ŋwar-s** ‘desire’

(vi) 原 series
The word *yuàn* 願 rhymes with an [*-on] word in Mao 94.

> 漙 *tuán* ***ddwan*** [*-**on**] ‘plentiful’
> 婉 *wǎn* ***qwarʔ*** ‘beautiful’
> 願 *yuàn* ***ŋwar-s*** ‘desire’

But the word *yuán* 原 in Mao 164 rhymes with [*-ar] words.

> 原 *yuán* ***ŋwar*** ‘original’
> 難 *nán* ***nnar*** [*-**ar**] ‘difficult’
> 歎 *tàn* ***hnnar-s*** [*-**ar**] ‘sigh’

Baxter 1992 discusses some of these cases treating them as a marginal phenomenon; some are claimed to be of late origin and others simply as irregular rhyming. One cannot argue against ‘irregular rhyming’; his arguments for late origins are speculative. Baxter suggests regarding the problem of the 官 phonophoric series that the character 管 for ‘flute’ rhyming with an *-on word is of late origin. Baxter believes the 官 represents ***K^{w}an,** and the variant character form 筦 of 管 with the 完, which to him suggests ***Kon**, is original (pp. 381-82). Both 管 and 筦 are registered in the *Shuowen* with similar definitions and both are attested in the early received texts.[51] The graphic variation 管~ 筦 suggests the compatibility of the two graphs 官 and 完 as phonetic components rather than historical change in the orthography. Baxter likewise suggests that the word *yuàn* 願, written with 原 which contacts both *-an and *-on is due to the replacement of the graph 元 by 原 because the form 忨 is used for *yuàn* 願 in the Zhongshan Wang Cuo bronze inscriptions (ca. 310 BCE). We do not find justification to consider the Zhongshan form to be earlier than the received 願. This may well suggest the compatibility of the phonophorics 元 and 原.

The problem of the *Kwan type syllables contacting both the ‘unambiguous’ *-an/*-ar and *-on/*-or is more serious than Baxter seems to suggest. In fact all recurring phonetic components representing the syllable type *Kwan (or Kwat) i.e., those that could be reconstructed either as ***K^{w}an/-t/-r** or ***Kon/-t/-r** by RVH are in one way or another involved in these “irregular” contacts with both *-an/*-at/*-ar and *-on/*-ot/*-or. There are ten phonophoric series whose members occur three times or more in the *Shijing*: Six of them, 活, 厥, 卷, 官, 原, 夗 as

51 筦, 竽也竹完聲 ‘筦 means 竽 [*fū* ‘bamboo pipe’]...’ (5a/191)
管, 如篪...从竹官聲 ‘管 is like 篪 [*chí* ‘type of flute’]...’ (5a/197)

shown above have direct contact with both the ‘unambiguous’ *-an etc. and ‘unambiguous’ *-on etc. The remaining four, which are 月, 戉, 爰, 宣 are indirectly involved in the fluctuation between *-an etc. and *-on etc. by indirect rhyme contact or word family relation. For example, the 爰 series seems to stay well on the *-an side as seen in the following rhyme sequences with *yuàn* 媛, *yuán* 援 and *xuān* 諼:

Mao 47:

> 展 *zhǎn* ***tran?** [*-**an**] ‘ritual garment’
> 袢 *fán* ***ban** ‘plain garment’
> 顏 *yán* ***ŋŋrar** [*-**ar**] ‘face’
> 媛 *yuàn* ***Gwrar-s** ‘beautiful woman’;

Mao 241:

> 援 *yuán* ***Gwar** ‘draw’
> 羨 *xiàn* ***z(r)ar-s** [*-**ar**] ‘desire’
> 岸 *àn* ***ŋŋar-s** [*-**ar**] ‘bay’

Mao 56:

> 澗 *jiàn* ***kkran-s** [*-**an**] ‘valley’
> 寬 *kuān* ***kk^{h}wan** ‘broad’
> 言 *yán* ***ŋan** [*-**an**] ‘speech’
> 諼 *xuān* ***q^{h}wan** ‘forget’.

But the word *yuàn* ***Gwrar-s** 媛 ‘beautiful woman’ is clearly related to 婉 *wǎn* ***qwar?** ‘beautiful’, so the 爰 series gets indirectly involved in *-an/*-ar ~ *-on/*or fluctuation of the 夗 series.

The seemingly non-problematic cases are actually ones that appear only once. For example, the word *guàn* 貫 would settle with ***Kon** in RVH because it occurs only once in the *Shijing* in a sequence with an *-on word (Mao 106) and there is no more data to suggest otherwise. The *wán* 丸 could settle as ***K^{w}an** because it occurs only once (Mao 305). Our examination of repeated *KwVn* type words suggests that a phonemic distinction such as *K^{w}**an** and *K**on** does not exist. Overall, the selection between *K^{w}**an** and *K**on** for a given *Kwan/-t/-r type syllable in the RVH is rather arbitrary.

The fact that the MC *hekou* words with dental initials (which are restricted to dental codas) rhyme only with *hekou* words can be explained alternatively by the rounding effect of *-w- on the main vowel. This rounding effect is also conditioned by the initial and coda. The *Kwaŋ freely rhymes with *Kaŋ or *Taŋ (There is no syllable in the *Twaŋ type). By contrast the *Kwan generally rhymes with

the *Twan or *Kwan and only occasionally with the *Kan or *Tan. The *Twan always rhymes with *Twan or *Kwan. We can assume that the *-w- changes the phonetic quality of the main vowel when the coda is *-n, and the effect, presumably rounding, is greatest when both the initial and coda are dental. The *-w- at the same time labializes the preceding velar/uvular initial so that *Kwan and *Kwaŋ do not occur in the same phonophoric series with their *kaikou* counterparts.

3 The Shanghai “Zhouyi” and the Warring States script

3.1 Elaborate and casual styles

One of the most prominent features of the Warring States writing system in contrast with the received standard orthography is that W.S. characters can be written in far more variant graphic forms and structures than we are accustomed to seeing in the received script. Because of its distinct formulaic text structure the Shanghai “Zhouyi” (SHZY) Chu manuscript provides a good illustration of the extent of graphic variability. Repetitive line headings, divinatory idioms and especially hexagram titles which run through the six-line text units as recurring thematic words, give us a good glimpse of how variant character forms can be used within a text written by a single hand. Characters with two variant structures are prevalent in SHZY as will be demonstrated throughout this chapter. As an extreme case the character for the word *lái* 來 ‘come’ appears in four structurally distinct forms.

Variant forms for 來 in SHZY

(str.51) (str.9) (str.35) (str.35)

{來 + 艸 + 止} {來 + 彳 +止} {來 + 止} {來 + 木 + 止}

In the W. S. script, the relative positions of components within a character can vary and parts of a component can take mirror image forms. We find two examples in SHZY. Note the varying positions of 父 and 頁 for the first example and the forms of the tail part in 鳥 for the second.

Positional variation

頫 (輔) *fǔ* ‘cheeks’ (str.27) *vs.* (str.49)

鳴 *míng* ‘(bird) call’ (str.12) *vs.* (str.14)

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Positional variation is a common feature of the early Chinese script. It seems to be related to the iconicity of the early Chinese writing system. Consider these examples from Shang and Zhou bronze inscriptions.

女 *nǚ* 'female'		(女子鼎)	*vs.*		(射女方監)
揚 *yáng* 'extol'		(友簋)	*vs.*		(盂卣)
唯 *wéi* 'copula'		(沈子它簋)	*vs.*		(番仲匜)
徒 *tú* 'follow'		(徙觶)	*vs.*		(徙尊)
史 *shǐ* 'scribe'		(史尊)	*vs.*		(史鼎)

The identity of a character is preserved even with varying positions of its graphic elements when it depicts the actual object or event that the written word signifies. The pictographic realism gradually became lost in the course of the development of the writing system and thus the graphs thereof became symbolic rather than iconic. Positional variations tend to occur much less frequently at the stage of the S.A. and W.S. writing system.

One major source of graphic variability in the Warring States script, calligraphic or structural, is a distinction between elaborate and casual styles.[52] This stems from two different attitudes of the scribe toward each instance of writing, either solemn or casual, based on his recognition of the social and historical circumstances under which the writing is taking place. In the bronze inscription corpus of the Zhongshan wang Cuo (ca. 310 BCE) tomb excavated in Hebei, Pingshan county, in 1977, the distinction between elaborate and casual styles is clearly shown in the distribution of variant forms in inscriptions on various vessel types of varying degrees of prestige. This corpus has 118 relics including bronze

52 William Boltz (2014) suggests that a distinction between refined and utilitarian writings correlated with textual content can be recognized in script styles in early Chinese manuscripts, which is parallel with Bernhard Bischoff's two-way distinction of the book-hand "calligraphic" and the quotidian "cursive" writing techniques for Latin Palaeography (Bischoff 1986): in early Chinese manuscripts, literary manuscripts tend to be found written in a book-hand calligraphic style whereas non-literay manuscripts (administrative, legal, medical, calendrical texts etc.) are often in a cursive style with occasional mixture of refined calligraphic and cursive styles.

(90), jade (26) and wood (2) vessels that carry inscriptions. Among them four objects, *Da ding* 大鼎 (469 chrs), *Fang hu* 方壺 (450 chrs), *Yuan hu* 圓壺 (204 chrs) and *Zhao yu tu* 兆域圖 (450 chrs) carry the majority of the characters in the corpus. The *Da ding* 大鼎 and *Fang hu* 方壺 have the most elaborate writings in contrast with the others. The elaborate versus casual styles both in calligraphy and structure are well represented by the comparison of the *Da ding* or *Fang hu* (elaborate) with the *Zhao yu tu* (casual).

The elaborate style is manifested in the following ways: (i) calligraphically more elaborate, (ii) unabbreviated (if there exists an abbreviated form), (iii) structurally more complicated, and (iv) more conforming to historically old forms. Examples are shown through characters for recurring, frequently used words.

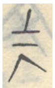
The elaborate *vs.* casual styles in the Zhongshan Wang Cuo corpus

zhī 之 'possesive particle'

（大鼎） （圓壺）*vs.* （兆域圖） （帳橛） （玉飾）

Note elongated strokes which would seem to require more effort in execution.

fū 夫 'in general'

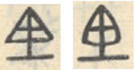
（大鼎） （圓壺）*vs.* （帳橛） （犀） （扁壺） （盉）

Note the symmetry and elegance of the elaborate form on the left in comparison with the casual form on the right.

zhì 至 'arrive'

(大鼎) *vs.* (兆域圖)

bǎi 百 ‘hundred’

（大鼎）*vs.* （圓壺）（兆域圖） （扁壺）

xī 昔 ‘past’

（大鼎）*vs.* （圓壺）

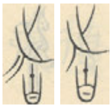
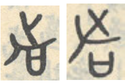
qí 其 ‘his/ hers etc.’, ‘may’

（方壺）*vs.* （圓壺） （兆域圖）

suǒ 所 ‘object relativization marker’

（方壺）*vs.* （小圓壺） （東庫方壺）

zhě 者 ‘nominalization marker’

（大鼎）*vs.* (圓壺) (兆域圖) (盉) (扁壺)

wèi 為 ‘serve, for’

(方壺) *vs.* (兆域圖)

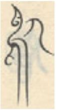
zāi (哉) ‘clause final particle’

(大鼎) *vs.* (圓壺)

zhǎng (長) ‘lead’

(大鼎) *vs.* (兆域圖)

yú 於 [烏][53] ‘in relation to, in, at’

 (大鼎) Compare a casual Chu bronze form (鄂君啟舟節)

The elaborate and casual styles are also found in bamboo manuscripts, but as the latter represent everyday writings, the distinction is not manifested so evidently as in bronze inscriptions. For example, the SHZY text has a notable unevenness in calligraphic style throughout. Some strips are more elaborately written than others. In the elaborate calligraphy, the strokes of characters are relatively thick in general and seem to have been executed with steady and consistent pressure, which contributes to the overall aesthetic appeal. One could argue that the SHZY manuscript was written by two different hands because of this mixed calligraphic style. It is improbable that parts of two separately written bamboo texts were pieced together to make one seamless copy such as this. We thus have to assume two different scribes who sat down together and took turns to prepare a single copy, or one scribe who wrote now elaborately and now casually. In either case the variant forms and styles in SHZY represent acceptable variation in the script of a single time and a single place.

53 The two characters 於 *yú* ***q^{w}a** and 烏 *wū* ***qq^{w}a** ‘crow’ split off from a single early form (See Rong Geng 1985: 265-266). The word *yú* 於 seems to be a dialect variant of *yú* 于 ***G^{w}a.** The use of the character 於 (烏) for the function word begins to appear in the late W. Zhou period and it becomes common in the W. S. period.

Some repeated characters appear in variant forms, such as simplified and unabbreviated or decorated and undecorated forms, while others appear in a single form in all of their recurrences. For the latter case, whether or not a simplification is involved can be seen by comparisons with other contemporaneous Chu manuscript characters. The same is true for the words that occur only once or twice. Note these examples of elaborate and casual forms in SHZY.

yòng 用 'use' 甬 (str.12) *vs.* 用 (str.8)

The form 甬 in origin is thought to have been a pictograph for the word *yǒng* ***loŋʔ** 鏞 '*yong*-bell' (Rong Geng 1985: 486), which is then borrowed for *yòng* ***loŋ-s** on the rebus principle. The graphic distinction between 用 and 甬 arose subsequently. The use of 甬 for *yòng* 'use' survives through the Spring and Autumn and Warring States periods in elaborate writing style:

(曾侯乙簋) (曾姬無卹壺) (中山王鼎) (楚王酓章戈).

sān 三 'three' (str.24) *vs.* (鄂君啟舟節)

The form is an elaborate variant of (鄂君啟舟節) for *sān* ***ssəm** 三 'three'. An even further elaborated version of the former, 參, appearing in both the Zhongshan corpus and the Chu manuscripts as (中山王鼎) and as (Yu-3 69) respectively, becomes specialized for the word *cān* ***tts^{h}rəm** 'partake, tripartite' in the received orthography.[54]

liù 六 'six' (str.1) *vs.* (str.56)

The character 六 appears in these two types of forms in SHZY. In the first form, the two strokes in the lower part of the graph first stretch down vertically and then bend outwardly to become slanting strokes parallel to the two strokes in the upper part of the character. The vertical part is absent in the second form. The two lower stokes, executed as straight lines instead of bending, only have the

54 The Shang oracle bone inscriptions (OBI) have a character that looks similar to the SHZY character, variably written as , and (*Jiagu wen bian*, p. 292), but these forms regularly stand for *xīng* 星 'star' in OBI.

symmetrical and outwardly slanting features of those in the first form. It would seem that the second form is written with less effort than the first and therefore it is likely to be a more cursive variant. This supposition proves true when we compare the two forms with their Western Zhou predecessor and contemporaneous Warring States forms.

Western Zhou

(保卣) (禹鼎)

Warring States

Qi (陳侯資錞) Jin (中山王兆域圖)

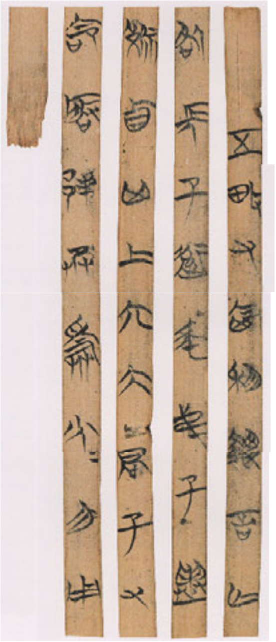
Chu (曾姬無卹壺)

We can see that the vertical execution of the lower strokes is a feature received from the W. Zhou script and preserved in various W. S. regional scripts including the Chu script itself. We can thus define the contrast between and as elaborate versus casual, which is at the same time traditional and cross-regional versus region-peculiar.

wǔ 五 ‘five’ (str.8) *vs.* (str.11)

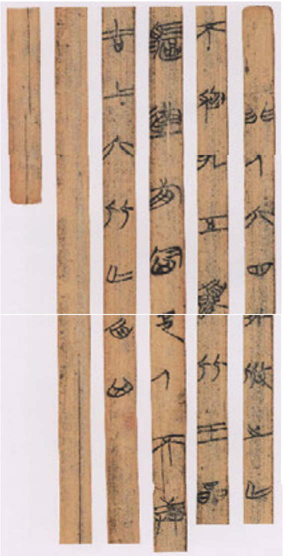
The character 五 appears in these two types of forms. The first form agrees with the W. Zhou (兮甲盤) and with the W.S. Jin script form (中山王兆域圖). It is clear that the form is derived from by cursive writing. We find some forms in Guodian Chu manuscripts and in a Chu bronze inscription that show the process of the development of this simplified form: (Xing40) → (鄂君啟舟節) and (Wu 4) → (Wu 28). It is interesting to note that the traditional and unabbreviated forms of 五 and 六 tend to be found in strips with elaborate calligraphy and likewise simplified forms with casual calligraphy. Take the strips no.8 and no.10, for instance.

str.no.8: Elaborately written



The forms of 五 and 六 from str.no.8

str.no.10: Casually written



The forms of 五 and 六 from str.no.10

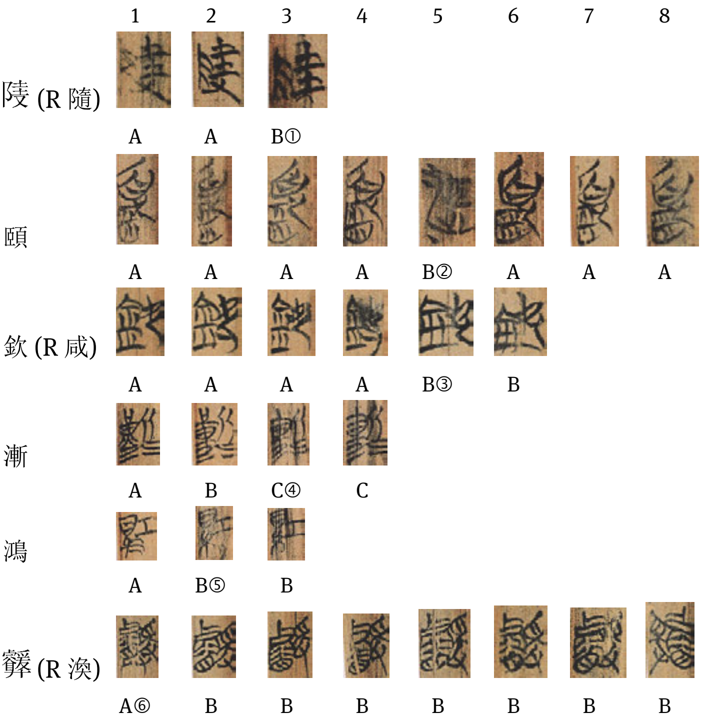
Amongst this mixture of elaborate and casual styles, we find evidence suggesting that writings on bamboo strips are not at all indifferent to formality. When full forms alternate with simplified forms in adjacent recurrences of the same words, (such as the hexagram names running through the line texts), there is a tendency that a full form is used for the first occurrence and then simplified forms follow immediately or just after two or three more repetitions of the full form. This suggests the awareness of standard forms, i.e., unabbreviated and thus more prestigious and appropriate forms on the scribe's part as well as a conscious effort to preserve them.[55]

Six hexagram names or thematic words that occur as repeated words in SHZY are found written in both unabbreviated and simplified forms. These are *Sui* 隨 (Hex. 17, str.16-17) which is written as 陵 in the manuscript, *Yi* 頤 (Hex. 27, str.24-25), *Xian* 咸 (Hex. 31 , str.26-27) written as 欽, *Jian* 漸 (Hex. 53 , str.50) and the thematic word *hóng* 鴻 'wild goose' in this hexagram, and *Huan* 渙 (Hex. 59, str.54-55) written as 䆳. Hexagram titles in their first occurrence as the chapter heading are written in an unabbreviated form as a rule.

Note: The numbers one through eight indicate the order of occurrence and the A and B or A to C indicate the relative levels of simplification of a given character.

55 One may wonder if this is also due to the fact that the scribe was supposed to meet his clients' aesthetical standard and educational needs.

Simplification of adjacent repeated characters



Notes
① The component 又 at the bottom is omitted.
② The 頁 is replaced by a simpler form, 水.
③ The form of 金 is simplified by linking two vertical lines on either side.
④ The form of the component 堇 became simplified in B and further reduced to the shape of 車 in C. The Qin Seal form has the structure 漸[56] (11a/531) which is the same as the abbreviated Chu form type C.

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56 Despite having two graphs that point to the ***Kən** type syllable, (Cf. 斤 *jīn* < ***kən** < ***kər** 'axe' and 堇 *qín* < ***grən** 'clay'), the OC of the word *jìan* 漸 {水 + 斤 + 堇 (>車 via simplification)} has to be reconstructed as ***dzamʔ** (> MC *dzjem*X), based on the MC and *Shijing* rhyme. It is probable that both 斤 and 堇 were originally associated with two distinct etyma, which were semantically close. Compare: *jìn* < ***kən(-s)** 近 'to be close, (approach)' and *jiàn* < ***dzamʔ** 漸'approach, gradual'. While 斤 and 堇 stood for two distinct etyma, ***kən** and ***dzamʔ**, other graphic components were added to distinguish one character from the other. The character for 近 thus has 辶 'motion' and the one for 漸 has 水 'water'. This latter was probably motivated by *jiān* < ***tsam** 'moisten' 漸, a cognate of *jiàn*. Alternation of 斤 and 堇 is repeated in another character in the Shanghai

⑤ The ‘tail’ of the bird is replaced by 糸.
⑥ The component 廾 appears only for the first occurrence.

Note that in the strips 24-25 and 26-27 where the unabbreviated forms are used four times or more, the calligraphy also tends to be in an elaborate style. Likewise in the strips 50 and 54-55 where the full form occurs only once at the beginning the calligraphy is in a casual style.

3.2 Decorative strokes

In the SHZY manuscript characters are often written with an orthographically non-contrastive stroke drawn in parallel over a top horizontal stroke or across a vertical stroke. This is one of many types of extra strokes in the W.S. writing system generally referred to as “decorative strokes” (*shibi* 飾筆).

bù 不 ‘not’ (str.1) (str.1) (str.4) Compare W. Zhou (克鼎)

These extra lines start to appear in bronze scriptions of the Spring and Autumn period and become prevalent in the W. S. script. Interestingly enough, the use of these “decorative” strokes which are so labeled because they apparently do not have any practical function and thus are presumed to have contributed to the aesthetic appeal of the script, is unrelated to the elaborate writing style. In the Zhongshan corpus where the elaborate versus casual distinction is clearly seen, the extra lines are often present in the most casually written texts. Also, the extra lines can be added in abbreviated character forms in which one or two primary stokes are left out.

From a diachronic perspective and by synchronic comparisons we can call these lines “optional” or “superfluous” even when the decorated variants occur just as frequently as the undecorated, or even outnumber the latter in a given corpus. It is to be noted that such decorative strokes are restricted to a few types which occur in specific forms and in specific graphic environments. The conventions surrounding these extra lines such as the shape of the lines and the frequency of their use comprise a regional characteristic in the W.S. script. The

Museum manuscripts: 夫義者以斤君子之行也 (vol. 5, “Ji Geng zi wen yu Kongzi 季庚子問於孔子”, str. 7) “As for propriety, what it means for a lordling is being prudent in his actions”. Here the graph 斤 writes the word *jǐn* 謹 (Lai Guolong 2014).

Zhongshan corpus for instance has an extra stroke type that touches but does not cross either a vertical or slanting primary stroke. In calligraphically artistic forms this extra stroke can take the form of a fancy curlyque.

Region-specific decorative stroke type: the Zhongshan corpus

fū 夫 ‘grown man’ (兆域圖) *vs.* (大鼎)

sì 祀 ‘offering’ (方壺) *vs.* (SHZY str.43)

yǒu 又 (有) ‘have’ (大鼎) (玉飾) *vs.* (SHZY str.1)

The Chu script is known for its extensive use of the extra horizontal lines on top or underneath a horizontal stroke or across a vertical stroke. This type of strokes appears in other regional scripts as well, but its frequent use in the Chu script strikes us as a regional characteristic. Two other types are observed in SHZY, which are parallel slanting lines above each side of 人-shaped strokes and left-ward slanting line on the tip of a vertical stroke. Examples are as follows. An un-decorated form from other sources is given for a comparison when SHZY has a decorated variant only.

Four types of decorative strokes in Shanghai “Zhouyi”

Type I: Horizontal line on top of a horizontal primary stroke

qí 其 ‘his’ (str.37) *vs.* (str.49)

yán 言 ‘speak’ (str.49) *vs.* (str.47)

sòng 訟 ‘litigate’ (str.5) *vs.* (str.4)

jí 疾 'illness' (str.21) *vs.* (str.15)

ér 而 'subsequently' (str.20) *vs.* (str.17)

fù 復 'return' (str.20) *vs.* (str.50)

chǔ 処 'place' (str.26) *vs.* (str.25)

Type II: Horizontal line across a central vertical primary stroke

mǔ 拇 'thumb' (str.26) *vs.* (str.27)

shān 山 'mountain (str.17) *vs.* (中山王鼎)

ěr 尓 (爾) 'you' (str.24) *vs.* (中山王鼎)

shī 帀 (師) 'troops' (str.7) *vs.* (鐘伯鼎)

fù 复 (鰒) 'rope' (str.21) *vs.* 復 (⿻冬弋方鼎)

wèi 未 'not yet' (str.58) *vs.* (鄀公鼎)

Type III: Parallel slanting lines above each side of 人-shaped strokes

yào 藥 'herbal medicine' (str.21) *vs.* (藥鼎)

huáng 黄 'yellow' (str.30) *vs.* (買簋)

sù 宿 'lodge' (str.37) *vs.* (Qin Seal)

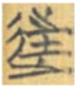
Type IV: Leftward slanting line on the tip of a vertical stroke

yú 余 'I' (str.14) *vs.* (秦公簋)

shì 事 'serve' (str.5) *vs.* (申鼎)

xiǎo 小 'small' (str.16) *vs.* (昜鼎)

ruì 叡 (叡) 'through' (str.28) *vs.* (str.29)

wǎng 迬 (往) 'depart' (str.20) *vs.*  (str.30)

tóng 僮 (童) 'adolescent' (str.22) *vs.* (str.53)

The character resembles 少 in the received orthography. The leftward slanting stroke has a mirror image variant appearing in the form 尐. The *Shuowen* registers both 少 and 尐 as variants for *shǎo* 'small quantity' (少, 不多也 [2a/48] "*shao* means 'not much' ") distinguishing them from *xiǎo* 小 'small size' (小, 物之微也 [2a/48] "*xiao* means 'for things to be minute' "). But as Li Shoukui notes 小 ~ 少 ~ 尐 are free variants in the Chu script (CWZ: 51).

3.3 Simplification and development of the Warring States script

Alternation of unabbreviated and simplified forms of the same character is found in the earliest attested stages of the Chinese writing system. The notion *simplification* or *simplified form* may be somewhat misleading, as Qiu Xigui (1988: 42-43) suggests, because it implies diachronic change from graphically more complex to simpler stages, a development for which we often lack evidence. What we find instead is the simple co-existence of relatively more complex forms and ones less so for the same word, which is often found in the same inscription or in the same corpus. Qiu Xigui underlines that such co-existence of simple and complex variant forms should be regarded as the outcome of *parallel development* of two orthographic styles, casual (*jian* 簡) and elaborate (*fan* 繁) , which was never interrupted from the very beginning to the end of the history of the early Chinese script. He notes that the contrast between the elegant and elaborate early W. Zhou bronze inscriptions and the terse and simple late Shang oracle bone inscriptions which seem to contradict our preconception of the development 'from complex to simple' is a good example of the two ever-concurrent strata of elaborate and casual styles.[57] We may think of the difference in calligraphic style between the Qin clerical script as represented by the Shuihudi corpus (ca. 250 BCE) and the Seal script of the Qin dynasty (221-206 BCE) in the same way.

57 One would suspect that because of the hard writing media, there might have been strong inclination for use of simplified forms in the Oracle Bone Inscriptions. Differences in stroke-execution style are evident between contemporaneous Shang OBI and bronze inscriptions. Whether OBI possessed a simpler orthography in terms of character-componential structure remains inconclusive due to the limited amount of comparable texts. An example from the W. Zhou Oracle inscriptions is worth noting. Xin Ting (2014) observes that on the W. Zhou Oracle bones which were recently discovered in Qishan 岐山, Shaanxi province (see Zhouyuan kaogu dui 2006), the character for *miào* 廟 'ancestral temple', which is written in W. Zhou bronze inscriptions as [illegible] or [illegible], is often written as [illegible], with two simpler components of three possible ones.

Qiu Xigui's point is well taken. But I will maintain the term *simplification* for two reasons: (i) it can explain the graphic co-relation between two types of orthographic forms in question without the implication of historical change; (ii) at the level of individual character forms, (and not at the level of Qiu Xigui's two 'orthographic systems'), synchronic variability *via* simplification can lead to diachronic developments. There are cases where simplified variants of Western Zhou characters are received in the Warring States script and likewise the modern orthography descends from simplified forms of the W.S. script. In these cases simplification as a diachronic process per se does apply.

Graphic simplification occurs on both of the two levels of orthographic structure, strokes and components. The term graphic component here refers to all graphic units above individual strokes, that is, (i) the smallest possible graphic unit that carries a semantic or phonetic function on its own, i.e., 'grapheme', (ii) a signific or phonophoric which is composed of one or more of the latter, and (iii) a whole character. Simplification of strokes and that of components share four general principles: (a) *deletion*, (b) *interruption*, (c) *linking* or *compression* and (d) *merger*. The distinction between 'linking' and 'compression' does not have any analytic significance, but the word compression seems to better suit graphic components which are two-dimensional. One important difference between stroke and component simplification is that the latter potentially leaves conspicuous empty space within a character or hinders reading, so in such cases other graphic elements are often introduced to compensate for the loss of graphic substance: for example, a simpler graph can substitute for a deleted or truncated graph, and a special marker may appear to signal an instance of simplification.

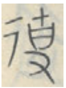
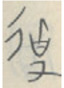
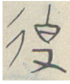
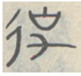
Deletion of a signific or phonophoric is correlated with variability of componential structure in the early Chinese orthographic system; it can be assumed when a single unit form alternates with a compound form either synchronically or diachronically; it is on the opposite side of the same coin with structural augmentation, which is an important feature in the Warring States script, in the context of the latter's penchant for signific-phonophoric compounds. This is the theme of section 3.4. The following subsections illustrate the principles of stroke and component simplification through SHZY manuscript characters.

3.3.1 Stroke simplification

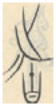
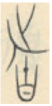
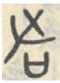
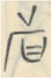
One or two strokes in a character can be simplified while the overall frame of the component to which they belong is still maintained.

Deletion

shǐ 使 ‘scribe’

（簋）*vs.* （扁壺）（盉） （錘） （小圓壺）（有柄箕）

zhě 者 ‘nominalization marker’

 （大鼎）*vs.* （圓壺） （兆域圖）（盉） （扁壺）

The SHZY has several characters appearing in variant forms formed by stroke deletion.

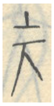
馬 *mǎ* ‘horse’	(str.21)	*vs.*	(str.32)
褃 *shěng* ‘reduce’	(str.20)	*vs.*	(str.56)
黃 *huáng* ‘yellow’	(str.30)	*vs.*	(str.37)
革 *gé* ‘hide (noun)’	(str.47)	*vs.*	(str.30)
遇 *yù* ‘encounter’	(str.33)	*vs.*	(str.56)
鳥 *niǎo* ‘bird’ in {鴻}	(str.50)	*vs.* 鳥	(str.56)

In the W.S. script, a vertical center stroke in a character is often entirely missing or cut off in the middle in the casual style. This interruption of a vertical stroke, unlike the three other types of stroke simplification appears to be an innovation of the W.S. period.

Interruption

夫 *fū* 'grown man' (str.50) *vs.* (str.9) Cf. W. Zhou (善夫克鼎)

Note an example in the Zhongshan bronze inscriptions.

夫 *fū* 'grown man' (中山王鼎) *vs.*  (扁壺)

大 *dà* 'large'

(str.2) *vs.* W. Zhou (頌鼎), Chu (elaborate style) (曾侯乙鐘)

天 *tiān* 'heaven'

(str.11) *vs.* W. Zhou (頌簋)

至 *zhì* 'arrive'

(str.44) *vs.* W. Zhou (盂鼎), Chu (Yu3, 65)

羊 *yáng* 'sheep'

in {羕} (str.47) *vs.* 羊 (str.38)

Two adjacent short strokes are sometimes linked to be executed in one long stoke as in the case of 欽 cited earlier and repeated here. Also, two adjacent strokes similar in shape can be collapsed into one stroke; this is sometimes called “stroke borrowing” (*jiebi* 借筆), I call it *merger* here instead of borrowing.

Linking and merger

欽 *qīn* ‘admire’ (str.26) *vs.* (str.27)

凥 *chǔ* ‘place’ (str.25) *vs.* (str.16)

驅 *qū* ‘drive out’ (str.10) *vs.* 馬 (str.21)

Note the top stroke of 區 coincides with the ‘back hair’ of 馬.

3.3.2 Simplification of graphic components

3.3.2.1 Deletion and interruption of components

When a component is repeated three times or more in a character, one or two of them are often deleted.

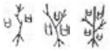
蠱 *gǔ* ‘legendary poisonous bug’ (str.18) *vs.* (Qin Seal 13b/676)

The unabbreviated form for *gǔ* 蠱 has three repeated 虫 as can be seen in the Qin Seal form as well as in *chóng* 蟲 ‘insect’ found in the Guodian texts written (LZ-A 21). Two of the three 虫 are deleted in the SHZY form.

靈 *líng* ‘spirit (healer)’ 霝 (str.24) *vs.* W. Zhou (頌鼎).

The W. Zhou inscription form has three of 口. The full form is also found in the Baoshan Chu manuscripts where it alternates with the simplified form 霝 (CWZ: 651-52).

喪 *sāng* 'lose, mourn'

The character for *sang* 喪 is written (毛公鼎) in an early W. Zhou bronze inscription, and the same form (Yu-1, 98) is found in elaborately written Chu manuscripts. The componential structure of this form is 亡 *wáng* ***maŋ** 'be gone' + 桑 *sāng* ***ssaŋ** 'mulberry'. The clerical form 桑 is structurally inconsistent with W. Zhou bronze/Chu graph identified as such, but both of these are directly related to the OBI form [桑]  for *sāng* 'lose'[58] : in the clerical form, the 'branches' of the 木 'tree' evolved to three repeated 又 '(right)-hand' whereas in the W. Zhou/Chu form the 'mulberries' evolved to four repeated 口 'mouth', and the 'tree' part is preserved in the original shape instead of being replaced by the grapheme 木. These two forms of 桑 are in fact the two most dissimilar ones among several other possible variants in between them. The tip of the 'tree' part, for instance, can be written to appear as 又 in Chu manuscripts as in the following examples.

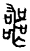
(LZ-C 8) (LZ-C 9) (LZ-C 10)

These occur in three adjacent strips in the Guodian "Laozi-C". Note here a progressing degree of simplification. The first has four of 口, next three, and the last only two. Also, these variants have the component 死 'die' as an alternative to 亡 'be gone'.

SHZY characters for 喪 *sāng* ***ssaŋ** 'lose, mourn'

(str.53) {桑 (> 又) + 亡} (str.32) {桑 (> 屮) + 亡}

58 *Jiaguwen bian*, p.54.

SHZY has two simplified forms of the  or type. In these the 桑 part is interrupted: all under the tip of the 'tree' became truncated, and what remains is once written to appear as 又 '(right)-hand', and once as 屮 (variant of 艸) 'grass'. These traces of 桑 are no longer functional as a meaningful component, but simply serve as graphic material which distinguishes the character as a whole from 亡. In these simplified forms, the graph 亡 would have functioned as the phonetic component. That is to say, it would have been read as ***ssaŋ** 'lose', rather than ***maŋ** 'be gone'; 亡 could take over the phonetic role of 桑 standing for ***ssaŋ** 'lose' relying on the semantic similarity. Now consider the Qin Seal form.

Qin Seal *Shuowen*: 喪, 从哭亡亡亦聲 (2b/63)

Xu Shen analyzed its structure as "consisting of 哭 ['cry'] and 亡 ['be gone'], adding that "亡 is also the phonetic".[59] We can see that what Xu Shen regarded as 哭, presumably as a semantic component meaning 'cry', is another simplified form of 桑, in which two out of four 口 are preserved and the 'tree' part is written to appear as 犬. The many variants in Chu manuscripts above suggest to me that this re-analysis may not be due to Xu Shen, but it may have been initiated in the Qin regional script itself. The shape of this "犬" is quite similar to the 'tree' in Guodian forms of 桑: the head of 犬 is like a mirror image of the 又-like part.

3.3.2.2 Replacement by simpler forms

It has been well known that the W.S. script unlike its W. Zhou predecessor has what is often referred to as an "abbreviation marker", usually in the form of a single or double horizontal line, which appears in the spot where the deleted graph was located. It seems that this marker is intended to give a balanced look to the character by not leaving odd empty space within a component, rather than to signal the incidence of omission. Otherwise we cannot explain why there is no "abbreviation marker" when an entire semantic or phonetic component is deleted. This is different from those cases of "combined character" (*hewen* 合文) and "repeated character" (*chongwen* 重文) markers. In this sense we can regard the horizontal lines in the position of a deleted graphic element as a case of replacement by a simpler form. The substitute graph can be as simple as a single or

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59 There has been much discussion on whether or not 亡 ***maŋ** 'lost, be gone' is the phonophoric in this character. If it is, then the OC for *sāng* 'lose, mourn' should be reconstructed as ***s-mmaŋ**, a nice case of causative or transitive prefix *s-. See Sagart and Baxter (2012: 35-37). I have suggested here that the phonetic role of 亡 is historically secondary.

double horizontal line or in some cases a different component that is somewhat similar in shape to the original one.

命 *mìng* ‘command’ (str.8) *vs.* (str.5)

為 *wéi* ‘act’ (str.1) *vs.* W. Zhou (雍伯鼎)

鳿 (鴻) *hóng* ‘wild goose’ (str.50) *vs.* (str.50)

(漸) *jiàn* ‘approach’ (str.50) *vs.* (str.50)

The double horizontal line in the abbreviated form of 為 which takes the place of the bottom half of the original character can be omitted: See a Chu bronze form (casual) (鄂君啟舟節) and a Guodian (Yu-3, 38). The full form is not used in Chu writings on bamboo strips, but reserved only for bronze inscriptions of the most elaborate kind.

3.3.2.3 Compression and merger of components

Compression can be divided into two kinds: (i) two juxtaposed characters written as if they are two components of a single character; (ii) two components in a character written to appear as a single component. The first kind is what is commonly called “combined character” (*hewen* 合文), and it is often marked with short double horizontal lines added on the lower-right corner of the compressed form. The *hewen* characters are generally restricted to frequently occurring disyllabic expressions including two-digit numbers. The second kind is relatively rare, and there is no special name for it. It often co-occurs with interruption: part of either component becomes truncated, and then the other component takes the place of the deleted part.

Compression of the "Hewen" type

小人 *xiǎo rén* 'petty man'

小 (str.16) + 人 (str.21) compressed as (str.8)

Compression of two components in a character and interruption

敓 (脫) *tuō* 'flay'

敓 (str.22) compressed as (str.30)

The lower part of 兑 is truncated and then the other component 攵 (攴) takes its place.

Note an example from the Zhongshan corpus:

⿰立長 (長) *zhǎng* 'senior'

⿰立長 (大鼎) compressed as (兆域圖)

The lower part of 長 is truncated, and the other component 立 takes its place. Merger can also be divided into two kinds: (i) two juxtaposed identical characters merging as one character, (ii) two non-identical ones merging as one character: when one of the two juxtaposed characters coincides with a graphic component of the other character, the more complex of the two can represent both characters. Both of these kinds are referred to as "repeated character" (*chongwen* 重文), since

both are indicated by the same marker, which is identical in form with the marker for “combined character”.[60]

SHZY has many examples of the first kind of merger. The *Zhouyi* text has many disyllabic onomatopoeic or mimic words, which are often duplications of thematic words of hexagrams, and these are always found merged and marked in the manuscript.[61]

汬 (井) *jǐng* ‘water-well’

(str.44) used in 往來 汬 汬 “Coming and going *jing-jing*.” (Hex.48 *Jing*)

夬 *guài* ‘decide’

(str.38) used in 君 子 夬 夬 “The lord is *guai-guai*.” (Hex.43 *Guai*)

攸 (var. 悠) *yōu* ‘far’[62](?)

(str.25) used in 其猷攸攸 “His plan is *you-you* (‘far-reaching’?).” (Hex.27 *Yi*)

60 The *hewen* marker was not used until the late S.A. period (Tang Yuhui 1986: 23) whereas the *chongwen* marker started to appear in the later part of the late Shang period (Qiu Xigui 1992: 141-150). The late origin of the combination character marker would have to do with the fact that the combination of two distinct characters is immediately visible, unlike the omission of a repeated character, which if not so indicated, would easily go unrecognized.
61 The meanings of such sound symbolism based words are often difficult to know. Ancient mimic words tend not to survive in the received Chinese lexicon and the characters that write such words are phonograms, i.e., characters used only for phonetic value, detached from their regular word-character associations in the script.
62 The *Jingdian shiwen* (*juan*2/94) notes that Xun Shuang’s 荀爽 edition has 悠悠 instead of the received version’s 逐逐. The intended meaning for “悠悠” seems to be ‘far’. This phrase appears a few times in the *Shijing* where it is generally interpreted as ‘far’, taken as an expressive word formed by the reduplication of the word *yōu* 悠 ‘far’ (Gao Heng 1947 [1973]: 95). This mimic word, written variably as 攸攸, is also used to describe the appearance of flowing water. The *Shuowen* definition for 攸 is 攸, 水行也 “for water to flow (3b/124)”. Duan Yucai notes to this entry that a Tang dynasty copy of the *Shuowen* has “水行攸攸也”. Whether or not the character has 心 is unimportant. The interpretation of this word “*you-you*” has to be based on the context.

貞 *zhēn* ‘ascertain’

(str.53) used in 喪 其 僮僕貞, 貞[63]厲 “It is a prognostication of losing his child servant. Ascertained adversative.”[64] (Hex.56 *Lü*)

SHZY has one example of merger of non-identical characters.

亡喪 *wáng sāng* “there is no loss” (*wáng* 亡 here stands for *wú* 無 ‘not exist’)

亡 (str.25) + 喪 (str.32) merging as (str.32)

Note a similar case in the Zhongshan corpus.

大夫 *dà fū* ‘grandee’

(中山王壺) + (中山王壺) merging as (中山王壺)

63 As seen, merger of identical characters takes place across clause boundaries. In fact for repeated sequences of two or more characters, that is usually the case. The reading of such sequences, though marked in the same way, is not uniform. e.g., the reading of $A_{x2}B_{x2}C_{x2}D_{x2}$ (*chongwen* marker notated as x2 here), could be ABCDABCD or ABABCDCD, AABBCCDD, and in rare cases, mixture of these types can occur within a sequence. As Richter (forthcoming) points out the use of this kind of abbreviation does not quite seem to increase convenience for the reader, and not even for the scribe for that matter. He shows that the space saved in this way is often insignificant, and in some cases, using the marker takes more strokes than writing out the repeated characters such as in the case of “一 $_{x2}$” for “一 一 ” (See Richter forthcoming “Punctuation”, “repetition marks” section Pp. 16-25). This kind of merger as a type of *simplification* as I classified here, must presume the reader’s familiarity with the particular text written, or the discourse style in such types of texts, and this tells something of the qualification demanded on the scribe as well. It should save some time for the scribe, and consequently for the reader who has to wait for the latter to finish the copying, if only both parties are already familiar with the language of the text.

64 The received version failed to duplicate the word *zhēn* 貞 here.

3.3.3 Simplification and residue of iconicity

Vestiges of iconic features of the Shang and W. Zhou script remain in the elaborate character forms of the W.S. script. These are heavy dots, thick lines, and fillings contrasting with the remaining strokes in a character. The development towards the direction of reducing the pictographic and iconic quality of character forms is most pronounced in the graphic evolution through the Shang and Western Zhou periods. Thickly executed enclosures were hollowed out; thick elements of all shapes were reduced to horizontal or vertical lines depending on which one the original graphs resembled more; curled or bending edges were straightened up while big curls were turned into sharply bending lines. This process was mostly completed by the end of Western Zhou, but some examples can be seen to have occurred in the W.S. period.

3.3.3.1 Diminishment of heavy dots, thick lines, and fillings

In SHZY there are a few cases where a heavy dot on a vertical stroke alternates with a horizontal line.

革 *gé* '(noun) hide' (str.47) *vs.* (str.47)

宔 (主) *zhǔ* 'host' (str.51) *vs.* (str.32)

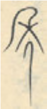
帀 (師) *shī* 'troops' (str.7) *vs.* (str.7)

The extension of a dot to a horizontal line or the other way around would hardly seem to simplify the execution of the stroke, and thus it is hard to tell which version is the unabbreviated form. Parallel examples found in the Zhongshan corpus suggest that the dot was regarded as more traditional, thus more elegant and elaborate than the other.

十 *shí* ‘ten’

(大鼎) *vs.* (帳橛) Cf. W. Zhou (大鼎) (散盤)

年 *nián* ‘harvest (season)’[65]

(大鼎) *vs.*  (大鼎) Cf. W. Zhou (頌鼎) (頌壺) (鄂侯鼎)

We can see that the dot, which alternates with a short horizontal stroke or absent altogether in some cases in the W.S. script, comes from earlier graphic elements of different shapes. These can be generalized as being substantially thicker than regular strokes and probably are iconic representations of the objects or events with which the characters with the elements in them are associated.

血 *xuè* ‘blood’

(str.2) Cf. W. Zhou 皿 ‘ritual vessel’ in 益 *yì* ‘overflow’ (永盂)

冬 (終) *zhōng* ‘end’

(str.2) *vs.* (str.3) Cf. W. Zhou (蔡姞簋) (善夫克鼎)

65 The Zhongshan Wang corpus has two structurally unrelated characters for the same word *nián* 年 : The forms and which descend from the W. Zhou character appear only in the two most prestigious bronzes, the *Da ding* and *Fang hu*. Elsewhere in the corpus the character type is used occurring thirty-five times in total with slight calligraphic variation (Zhang Zhouzhong 1981: 24). This shows the recognition of historically correct forms as the standard which is not the commonly used one in this case. This is an instructive example that suggests how traditional W. Zhou forms and structures were preserved in W.S. regional scripts alongside with popular or region-peculiar forms even though archeological findings for the existence of the W. Zhou forms would not always be available to us.

疾 *jí* ‘illness’

(str.15) *vs.* (str.21) Cf. W. Zhou 矢 *shǐ* ‘arrow’ (盂鼎二)

山 *shān* ‘mountain’

(str.17) Cf. W. Zhou (克鼎), Zhongshan (elaborate) (中山王鼎).

The thick part is still preserved in the Qin clerical script only occasionally being emptied out or omitted: *vs.* *vs.* .
The graph 卩 in 肥 *féi* ‘fat’ (str.31) *vs.* 卩 in *xù* 卹 ‘concerned’ (str.38)
The filled-in part of 卩 is emptied out in this variant form.

工 *gōng* ‘craftsmanship’

(str.16) Cf. W. Zhou (孟簋) (伊簋)

This 工 in SHZY has two vertical lines instead of one. The second one on the right does not quite touch the top horizontal line but rather leans on the first vertical line on its left. The empty compartment formed by the double vertical line and the bottom horizontal line turns out to be a trace of the thick part in that position as seen in the early W. Zhou inscription form.

míng 冥 ‘dark’ (str.15)

This character matches *míng* 冥 ‘dark’ in the received version. It is tempting to suspect the top part of this character to be an iconic representation of ‘darkness’. The Qin Seal form 冥 , as Xu Shen analyzed it, is composed of 日 ‘day’, 六 ‘six’ and 冖 ‘roof’ (7a/312). It is likely that the 日 is a reanalysis and simplification of the original pictograph, and 六 is a graphically similar substitute for the element in the early character that resembles 木, and 冖 is an added semantic component.

ní 泥 'mud' (str.2)

The SHZY character for the word *ní* 'mud' is composed of two graphs, 土 'earth' and which is probably an iconic representation of mud. In the course of the development into the received graph's structure 尼, the early pictograph was first augmented with the component 尸, and was subsequently replaced by 匕, a graphically similar and simpler component. The graph 尸 (Cf. 尸 *shī* ***hlij** 'corpse') may have been intended as a phonetic for the word *ní* ***nnij**. (The *(h)n- and *(h)l- do not normally have *xiesheng* contact.) The evolution from (a) to (b) and then to (c) 尼 can be seen through the SHZY character 柅 (str.40) corresponding to *nǐ* 柅 'chock' in the received version. The component 土 'earth' alternating with 水 'water' in the received Qin script form 泥 is accounted for by the interchangeability of these two graphs in the early Chinese script.

3.3.3.2 Neutralization of iconicity

SHZY has two pairs of characters that preserve iconic graphic distinctions. Such pictographic distinctions, characteristic of early phases of the writing system had been nearly completely replaced by symbol distinctions in the W. S. script. The movement from the iconic to symbolic representation also meant that the written communication had come to have little reliance on the visual representation of the graph by the late W.S. period.

zuǒ 左 'left' (str.7) *vs*. *yòu* 右 'right' (str.11)

The characters for the words *zuǒ* 'left' and *yòu* 'right' preserve the earlier iconic representation of the words' meanings: the 'left' is indicated by a graphic icon of a left hand, and the 'right' by that of a right hand. Such a pictographic distinction gives way to a purely symbol distinction 工 (左) *vs*. 口 (右), which already appears in the Zhongshan corpus (See Zhang Shouzhong 1981: 16). Once a new symbol 工 for the *zuǒ* is introduced, the direction of the 'hand' could freely vary.

jiàn 見 'see' (str.1) *vs*. *shì* 視 'watch' (str.25)

The two graphs for *jìan* 'see' and *shì* 'watch' contrasting with each other by the pictographic representation of kneeling versus standing figures go back to the OBI (Qiu Xugui 1998: 1). See the OBI forms *vs*. (Xu Zhongshu 1981: 977). A

compound form 𥆞 (何尊) for *shì* ***gijʔ*** 視 with an added phonetic 氏 (cf. *shì* ***geʔ*** 氏 'clan') already existed in the W. Zhou script. This form was preserved in the script of the Jin region during the S.A. and W.S. periods: The Houma and Wenxian covenant texts have the character in the structure 𥆞 (Rong Geng 1985: 619) and the late W.S. Zhongshan corpus has 眂 (兆域圖) (Qiu Xigui 1998: 4). The modern form 視 comes from the Qin Seal form which has the phonetic 示 instead (Cf. *shì* 示 ***s-gijʔ-s*** 'show'). Xu Shen registers a *guwen* form 眂 for 視 (8b/407). The *guwen* 眂, according to Duan Yucai, is also found in the received *Zhouli* (p.407).

The early pictographs persist in the W.S. Chu script. In SHZY, for example, the word *jiàn* 見 which occurs eleven times (Hex. 4/3, 6/0, 38/1, 38/3, 38/6, 39/0, 39/6, 44/1, 45/0, 55/3, 55/4) is always written as and the word *shì* 視 which occurs only once is written as (Hex. 27/4). Qiu Xigui (1998: 2) observes that the Guodian "Laozi-C" has the line 視之不足見 "Watching it is not sufficient for seeing (it)", where the graphic distinction is clearly made. But the distinction was in the course of disappearing in the Chu script. Li Shoukui (2003: 526) notes that the character type (Wu 30), closely resembling the form for *shì* 視 is often used for *jiàn* 見 in Chu manuscripts. A late W.S. Chu bronze has the form (鄂君啟舟節) like a hybrid of and where the intended word is *jiàn* 見: ~其金則毋征 "If you see the metal then do not proceed".

3.3.3.3 Transition to the Warring States script

In the course of the development towards the direction of reducing the pictographic and iconic quality of character forms, the W. Zhou script often had two types of variant forms. The more complex of the two maintains some thick parts, but with much of the earlier realistic shapes compromised. The simpler one has the thick part completely omitted. Characters in the W.S. script in most cases descend from the simpler W. Zhou variants with little change, but in some cases the complex ones are also received alongside the simple ones, in which case the thick part is reduced to a dot or a slightly thicker line contrasting with regular strokes.

Note: Examples of Shang bronze inscription forms and SHZY are given whenever possible.

Western Zhou simplified variant forms and Warring States characters

Word	Shang	Western Zhou	Warring States	Shanghai "Zhouyi"
zài 'be at' 才 (在)	(丙申角)	(克鐘)	(中山王壺)	(str.56)
fù 'father' 父 Cf. *fǔ* 'axe' 斧	(羊父庚鼎)	(犀伯鼎)	(中山王壺)	(str.18)
yáng 'sheep' 羊[66]	(羊父癸觶)	(盂鼎二)	(鄂君啟舟節)	(str.38)
xián 'all' 咸	(咸父乙簋)	(班簋)	(國差𦉜)	
nián 'year, harvest' 年	(父甲簋)	(善夫克鼎) (召伯簋)	(齊侯盤)	(str.24)

66 The Shang character forms given here for 羊, 咸, and 天 are attested as *zu ming* 族名 'lineage names', a special kind of inscription found on Shang bronzes, often with no further inscriptional context, typically understood as designating the lineage or clan with which the bronze vessel in question is somehow associated. Beyond this, neither the function of the *zu ming* inscriptions nor the relation of their graphs to the more straightforward writing of Shang bone and plastron divinatory inscriptions is well understood. All the same, clearly in these three cases the *zu ming* characters can safely be considered as formal matches to the other forms of the characters given.

gōng 'craftsmanship' 工	(司工丁爵)	(盂簋) (伊簋)	(中山王鼎)	 (str.16)
wáng 'king' 王	(戊寅鼎)	(克鼎) (散盤)	(曾侯乙鎛)	 (str.5)
tiān 'sky, heaven' 天	(天父辛卣)	(師酉簋) (頌簋)	(中山王鼎)	 (str.11)
zhēng 'go on a military campaign' 正, 征[67]	(乙亥鼎)	(彔伯簋) (利簋) (格伯簋) (史免簠)	(畲忐鼎) (中山王鼎)	 (str.24)
shí 'ten' 十		(同簋) (申鼎)	(鄂君啟舟節) (者沪鐘)	 (str.24)

67 The early form of 正 , which stands for the word *zhēng* ***teŋ** 'go on a military campaign' has two graphic components {丁 ***Teŋ** + 之 'go'}: 丁 *dīng* ***tteŋ** 'fourth of the Heavenly Stems' is the phonetic and 之 'go' the semantic. This character has a variant form with another semantic component 彳 'road' written as . The heavy dot became simplified to a straight line to appear as /征. The simplification of the heavy dot to a straight line in this case obscures the early phonophoric, and gives rise to a new unit character 正 which takes over the phonetic functional value ***Teŋ**.

While the W. Zhou graphic variants of the type *vs.* or *vs.* were not so often received as variant graphic *forms* themselves in the W.S. script, the manner of variation, i.e., the alternation of a dot and a horizontal line was adopted as a *principle* of variability in the W.S. script. This explains the phenomenon of a horizontal stoke alternating with a dot on a vertical stroke which in many cases does not have a historical precedence. Once it is a principle, it can be applied regularly to any given horizontal stroke across a vertical stroke thus creating synchronic variant forms. It applies, for example, to strokes that had historically been horizontal lines, to the "decorative strokes" or new primary strokes of the S.A. and W.S. origin.

Historically unprecedented use of a dot in the Warring States script

Word	Shang and W. Zhou	W.S. script variants as dot vs. short line
jīn 'metal' 金	(史頌簋)	(鄂君啟舟節) *vs.* (中山王壺)
shī 'troops' 帀 (師)	(鐘伯鼎)	(str.7) *vs.* (str.7)
lǜ 'regulate' 聿 (律)	(女帚卣)	(str.7) *vs.* (者沪 鐘)
nèi 'inside' 内	(利鼎)	(Zi 39) *vs.* (Wu 3)
zhì 'arrive' 至	(兮甲盤)	(中山王壺) *vs.* (邾公牼鐘)

It is also significant that regional variant forms can be generated by the application of a rule of variation on different individual characters by different regional scripts. We will show in the following sections that structural variations within a W.S. script and across regional scripts are likewise often consequences of rules of structural variation received from the W. Zhou script.

3.4 Structural variability in the early Chinese writing system

The Chinese script is a logographic writing system whereby a character, i.e., a logograph stands for a word, which by definition has a pronunciation and a meaning. A character associated with the phonetic and semantic values of one

word can subsequently be used as a component in another character standing for a different word, in which it indicates the pronunciation or meaning of the latter. The graphic component in a character that plays a phonetic role is called *phonophoric*, and the one that plays a semantic role is called *signific*. A Chinese character that has two graphic elements typically consists of one signific and one phonophoric, and we call this a *signific-phononphoric compound* (SP compound) character or in the traditional Chinese terminology *xingshengzi* 形聲字.[68]

For example, the character 門 (格伯簋) stands for the word *mén* *__mmən__ 'door'; the graph is then associated with the meaning 'door' and the pronunciation *mén* *__mmən__. In the signific-phonophoric compound character 關 (鄂君啟舟節) standing for the word *guān* *__kk^{w}ran__ 'to shut', the graph 門, based on its semantic association with 'door' serves as a *signific* indicating a semantic aspect of the word for 'shut'. The component 串 is the phonophoric therein, because the graph 串 as a single unit character stands for the word *guàn* *__kk^{w}an-s__ 'penetrate', which is phonetically similar to *guān* *__kk^{w}ran__ 'to shut'.

3.4.1 Graphic components and functional values

Carrying the phonetic and semantic values of the word that it stands for as a single component character, a graph can function either as a signific or a phonophoric in different characters. In other words, a graph is potentially versatile in its function and it is neither a signific nor a phonophoric on its own until it is used in a compound character. For instance, the component 門 in for *guān* 'shut' is a signific, but it serves as a phonophoric in 悶 *mèn* *__mmən-s__ 'distressed'. In a W. S. regional script, the word *mén* *__mmən__ 'door' is written in a compound character 閔 (中山王兆域圖) consisting of 門 and 文 (Cf. *wén* *__mən__ 文 'pattern'). With the latter being phonophoric, the graph 門 in this case can be seen as a signific indicating 'door', while its association with the pronunciation *__mmən__ seems to have become secondary.[69]

Simultaneously with the versatility of a character's function as a signific or phonophoric, there appears to develop a division of roles among different graphs. Some graphs tend to be used more often as significs than as phonophorics and

68 In the field of Chinese historical phonology the term phonetic compound character or *xieshengzi* 諧聲字 is most commonly used.

69 It would be anachronistic to compare this regional character form with the structurally coincident received character 閔 *mǐn* *__mmən?__ 'sympathetic' and say that one is borrowed for the other for phonetic similarity.

others likewise normally serve as phonophorics, but hardly ever as significs. This specialization in function of graphs can be regarded as a mechanism in the writing system that controls the otherwise virtually unlimited productivity of signific-phonophoric compounding by regulating the compositional variability to some degree. Versatility and stability of the role of a graphic component are two sides of the same coin, which can expand and also control the size of the inventory of Chinese characters.[70]

We assume that a compound graph such as 關 for *guān* *__kk^{w}ran__ developed out of a rebus usage of 串 *guàn* *__kk^{w}an-s__, which Xu Shen in his *Shuowen* referred to as *jiajie* 假借 'loan', and that 門 was subsequently added to distinguish *guān* 'shut' from *guàn* 'penetrate'. That is to say, the character 串, which we suppose, based on its residual iconicity, to have been originally created for the word 'penetrate' *guàn* *__kk^{w}an-s__, is *borrowed* to write a phonetically similar word *guān* *__kk^{w}ran__.

It is uncontroversial that most of the graphic forms in the Chinese writing system were first created after the actual object that the word in question stands for or is typically associated with. The form of the character 禾 (白禾憂鼎) for *hé* 'grain plant' or 車 (師兌簋) for *chē* 'chariot' for example, were most likely intended to be iconic representations of the objects themselves. But we cannot get very far if we were to try to figure out the originally intended word of a given character from the graphic appearance alone. We do not know, for example, what the characters (古伯尊) for the word *gǔ* 古 'old' and (亞耳尊) for *zǔ* 'ancestor' "look like".[71] Moreover it is often the case that we only find graphs in later phases of the early Chinese script, such as the W.S. script, in which graphs are symbolic and the iconicity, if at all, is greatly diminished.

The significance of the *jiajie* or the rebus principle is that graphs, however they may have originated, whichever objects or events they were initially intended to depict, can be used solely for a phonetic value in any given character. As more and more characters were generated by the rebus principle, the original word that a graph is created for would have no longer been remembered or mattered.

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70 The 540 *bu* 部 "classifers" in the *Shuowen Jiezi* and the 214 classifiers of the *Kangxi Zidian* 康熙字典 may be regarded as itemizations of graphs that regularly serve as significs. The *Grammata Serica Recensa* by Bernhard Karlgren (1957) and *Zhangguo Wenzi Shengxi* by He Linyi (1998) are examples of classifications of graphs that usually occur as phonophorics.

71 The graph is conventionally understood as a depiction of the phallus, a symbol of male ancestor (See GSR #46).

Instead of trying to guess the word originally intended just by looking at the shape of a character, we will assume that each graph possesses an *abstract functional value*. This abstract value can be deduced from the similarities in the meanings and pronunciations in the words written with shared graphic components. For example, the semantic functional value of the graph 示 can be identified as 'ritual'~ 'spiritual' based on the following characters:

fú 福 (虢弔鐘) 'blessings',

shén 神 (伯𢦚簋) 'spirit',

jì 祭 (史喜鼎) 'sacrifice',

yuè 礿 (我鼎) 'libation',

shè 社 (中山王鼎) 'altar'.

The phonetic functional value of 且 as the syllable type ***Tsa**, with the ***Ts**- covering dental affricates, e.g., ts-, tsh-, dz, etc., and the ***-a** indicating the rhyme, can be deduced from the following characters:

zǔ ***ttsaʔ** 祖 (𪒠鎛) 'ancestor',

zǔ ***tsraʔ** 俎 (三年瘨壺)'sacrificial table',

qiě ***tshaʔ** 𠭁 (str.37) 'furthermore',

Thus for example, the compositional structure of the character 祖 for *zǔ* 'ancestor' is described as the combination of the signific 示 'ritual' and the phonophoric 且 ***Tsa**.

3.4.2 The Tendency towards Signific-Phonophoric compound structure

The principle of signific-phonophoric or *xingsheng* 形聲 compounding developed simultaneously with the rebus or *jiajie* usage. The character 禾 (白禾憂鼎), for example, is regularly associated with, and was probably created for the word *hé*

***gg^{w}aj** ‘grain plant’. It then comes to have twin functional values, the semantic ‘grain’ and the phonetic **K^{w}aj.** In one SP compound character such as 年 (秂) (封簋) for the word *nián* ***nnin** ‘year, harvest’, the 禾 is effective as a signific. In another, such as 盉 (伯劚盉) for *hé* ***gg^{w}aj** ‘a type of ritual vessel’, it functions as a phonophoric:

年 {Signific 禾 ‘grain’ + Phonophoric 人 ***Nin**}

盉 {Signific 皿 ‘vessel’ + Phonophoric 禾 ***K^{w}aj**}

The phonophorics 人 and 禾 in these two compound characters are rebus usages of the characters 人 for *rén* ***nin** ‘person’ and *hé* 禾 ***gg^{w}aj** ‘grain plant’, and the significs 禾 ‘grain’ and 皿 ‘vessel’ are semantic determiners added to these *jiajie* loan graphs.

The rebus or *jiajie* phonetic loan and the *xingsheng* 形聲 compounding both arise from a single principle, viz., the graphic bivalency. The *jiajie* concerns the use of a graph only for the phonetic value with its original semantic value disregarded whereas the *xingsheng* concerns the composition of a character by two graphic elements which separately take the phonetic and semantic roles. We see these *jiajie* and *xingsheng* principles both working in the earliest attested Chinese script, the oracle bone inscription of the late Shang period which we consider a full-fledged writing system.

Once the SP compounding principle has been established in the writing system each word could be written in the compound structure. But not all characters are found in the compound structure in the earliest attested Chinese script. As a matter of fact, the majority of Shang inscription characters remained as single component characters. SP compound characters steadily increased over time. The increase is noticeable within the span of about the one and a half centuries of the Shang OBI script available to us. This trend continues through the Zhou bronze script into the modern script, where the vast majority of characters are SP compounds. It is hard to speak of an exact ratio of compound characters in a given phase of the early Chinese writing system because this involves the difficulty of discerning lexical variants from graphic variants. Gao Ming (1980: 119) for example, notes that the ratio increased from about ten percent in OBI to over eighty percent in the Seal script of the *Shuowen*.[72]

72 If there was a systematic orthographic simplification in OBI motivated by the hard media as suggested above, we may not obtain a fair statistics on the percentage of compound forms in the script of the Shang period through OBI character forms. One way to get around this problem is

The increase of compound forms in itself is not an indication of advancement or progress in the Chinese writing system. The script of the W. Zhou period is not a more advanced writing system than the OBI because it has more characters with an added signific component. A signific does not actually appear in the majority of characters in the OBI despite its availability, simply because it was not necessary in order for the writing system to function. Consider the fact that the signific in a given character was only secondary in its importance to the phonophoric, being more subject to omission or replacement in any given historical phase between the late Shang and the W. S. periods. If the characters in the OBI often *did not have* a signific, those in later periods were often *used without a signific*. The diachronic increase of SP compound characters therefore should be regarded as a cultural development rather than improvement in the efficacy of the writing system itself.

3.4.2.1 Increase of compound characters in the Warring States script

The recently discovered Chu bamboo manuscript materials show that a lot of characters that are in single component structure in the modern script were written in the SP compound structure in the W.S. script. He Linyi (2003: 220-26) refers to this phenomenon as "augmentation" (繁化), one major type of variation of graphic forms in the W.S. script, which co-exists with the converse, "simplification" (簡化). He notes that forms with or without an additional signific or phonophoric are used simultaneously, and thus although such an optional component does have an intended semantic or phonetic value, it is functionally not essential. He explains this in terms of synchronic structural variability in the W.S. script.

From a diachronic perspective it is worth noting that a signific or phonophoric element was often added to characters that were previously single component characters. Note these examples from the Zhongshan corpus:

to combine OBI and W. Zhou inscriptions together as a single group representing for the single time period from the late Shang to W. Zhou (13th-8th centuries BCE) as Li Yunfu 1997 did. Li Yunfu 1997, who had not yet seen the publications of the Guodian and Shanghai Museum manuscripts, gave 70% percent for the W.S. Chu script while giving 20% of compound character ratio collectively for OBI and Zhou bronze scripts. It should be noted that a large number of W.S. Chu compound characters have variant forms in the single component structure as will be demonstrated in the latter part of this section.

SP compound forms of late origin in the Zhongshan wang Cuo bronze corpus

Word	Western Zhou	Warring States, Zhongshan (ca. 310 BCE)	Added signific (S) or phonophoric (Ph)
zhăng ‘senior’ 長	長 (𨑏長鼎)	脹 (大鼎)	S: 立 ‘standing man’
zuò ‘make’ 作	乍 (盂鼎)	詐 (大鼎)	S: 言 ‘speech’
wáng ‘gone’ 亡	亡 (兮甲盤)	迒 (大鼎)	S: 辶 ‘go’
mŭ ‘mother’ 母	母 (毛公鼎)	侮 (大鼎)[73]	S: 人 ‘person’
mén ‘gate’ 門	門 (格伯簋)	閔 (兆域圖)	Ph: 文 ***Mən**
shàng ‘up’ 上	上 [74] (敔卣)	尚 (方壺)	Ph: 尚 ***Taŋ**

I would suggest that the convention of adding a signific or a phonophoric to the received single component character had spread virtually to every character in the W.S. script. Given an adequate corpus of manuscripts, we can expect to find a compound form that corresponds to the W. Zhou or modern single component character in the W.S. script of one region or another.

Added components, both synchronically and diachronically, are predominantly significs, rather than phonophorics. The phonophoric which represents a syllable type indicates the word more precisely than the signific which only indicates a semantic category. That is to say, the phonophoric is functionally more effective than the signific and therefore tends to be better preserved. At the same time, it becomes the convention that the writing system does not tolerate variations in the phonophoric so much as in the signific. Diachronically, the regularity of sound change, i.e., parallel developments cause words written with shared phonophorics at an earlier period often remain compatible in later periods, so

73 In the “Zhongshan Wang Cuo *ding*” text, the single component character 母 is used consistently for the prohibitive negative *wú* 毋: e.g., 母忘尔邦 “Do not forget your state” and 母富而喬（驕）“Do not be arrogant being wealthy”.

74 The W. Zhou form evolves to 上 (上樂鼎) in the W.S. script.

that historical change of the phonetic value of individual words itself does not always motivate a replacement of the phonophoric. The structuring of an earlier single component character into the SP compounds is one mechanism through which regional variants as well as variant forms within a regional script were generated. Note the following examples.

shàng, *shăng* 上 'up', 'ascend'

Chu manuscripts have the form ⿰彳上 (⿺辶上) (鄂君啟舟節) with an added signific 辶 'motion' used as a variant of the single component form 上 (str.8). The compound form is often used when it has a verbal meaning, viz. 'to ascend'.[75] The Zhongshan script has its own regional compound 尚 (方壺) with an added phonophoric 尚 ***Taŋ** as cited above. This compound form alternates with the form (方壺) within a single inscription text.

zhōng 中 'center'

The Chu script has a variant ⿱宀中 (str.7) with an added component 宀 'roof' (i.e., 'place'). Compare the W. Zhou form (頌鼎). The variation 中 ~ ⿱宀中 is repeated in a different character: (Zhong 4) and (Liu 17) for *zhōng* 忠 'loyal'. The structure of the latter form is thus {S 心 + Ph ⿱宀中}, rather than {S 心 + S 宀 + Ph 中}.

zuò 作 'make'

The Zenghou Yi bronze inscriptions have the form ⿰音乍 (曾侯乙鼎) with a signific 音 'sound' alternating with 乍 (曾侯乙鐘). The latter agrees with the W. Zhou structure (盂鼎). The Zhongshan corpus has 詐 (大鼎) with 言 'speech' for the same word as cited above. The Zhongshan corpus has another variant form ⿱乍又 (中山王壺) with a signific 又 '(right-)hand'. The same form ⿱乍又 (酓肯鼎) is found in a Chu bronze. The Guodian Chu manuscripts have the form ⿰亻⿱乍又 (LZ-A 17) with another added signific 人 'person'. Note that the alternating significs surrounding the regional variant forms for *zuò* 'make' are semantically related: 言 'speech' and 音 'sound' are semantically similar and so are 又

75 See Gassmann 2005 for an attempt at explainining added significs as indicators of morphosyntactic variation.

'(right-)hand' and 人 'person'. The received character 作 comes from the Qin variant. See the *Shuowen* definition: "*zuo* means 'initiate'" (作，起也; 8a/374).

gōng 工 'craftsmanship'

This word is written as (免卣) in W. Zhou bronze inscriptions, but it is predominantly written in SP compound structures in the W.S. script. In this case also semantic relations can be observed among different added significs in regional variant forms. Note the form (國差𦉜) from the Qi script, (郾王詈戈) from Yan, and (鄂君啟舟節) ~ (鄂君啟車節) from Chu. The alternating significs are 又 '(right-)hand', 寸 'inch', 攴 'treat' and 殳 'attack'.

wèi 位 'position'

The word *wèi* (< MC *hjwijH*) ***Gʷrət-s** 位 'position' is written as 立 (頌鼎) orthographically undistinguished from 立 for *lì* ***rəp** 'stand' in W. Zhou inscriptions (See Rong Geng 1985 [2005]: 10). The shared graph 立 and the semantic relation between 'stand' and 'position' suggests an early OC ***Gʷrəp-s** with the coda ***-p** for *wèi* 位, which had changed to ***Gʷrət-s** by the *Shijing* OC period (see Li Fangkuei 1971 [1982]: 44). The *Shuowen* enters the Qin Seal form 位 with the definition "the vassals who stand in line on the left and the right at the central court are called *wei*" (列中庭之左右謂之位; 8a/371). In the late W.S. Qin clerical script, on the other hand, the form 立 is still used for *wèi*. This suggests that the Qin script had variant forms 立 and 位, the former single component character received from the W. Zhou, and the latter a new SP compound with an added signific 人 'person'. In Chu manuscripts the form 位 (LZ-C10) is the norm for *wèi*, which is sometimes written with an extra horizontal stroke underneath 立 as (Zi 25).

The Zhongshan corpus has the compound form (中山王壺), consisting of 立 and 胃, for *wèi* 位 . The graph 胃 (Cf. *wèi* < MC *hjwɨjH* < ***Gəj-s** 胃 'stomach') is no doubt a phonophoric, which suggests the loss of final ***-t** from the OC ***Gʷrət-s** by the time around 300 BCE. This is a case where a replacement of the phonophoric is due to a sound change. The phonophoric replacement of 立 by 胃 is due to the diachronic sound change (***-əp-s** >)***-ət-s** > ***-əj-s**. We can see from an example such as this that a character that clearly reflects W. S. phonology may end

up only as a regional variant and not survive into the modern script. That the Qin and Chu scripts maintained the W. Zhou phonophoric 立 does not mean that the sound change, i.e., loss of ***-t**, did not take place in those regions just as the graphic relation between 立 and 位 in the modern script does not have to do with their phonetic compatibility in modern Chinese. In other words, the difference in the structure between 位 and 䇊 in two different regional W. S. scripts, although it concerns a phonophoric, is not related to contemporary dialect differences.

The significs 人 'person' and 立 'standing man' alternating in the forms 䇊 and 位 are semantically related. Guodian Chu manuscripts have a compound variant of 長, (Wu 14) {人+ 長} for *zhǎng* 'elder' comparable with the Zhongshan form (大鼎) {立 +長}.

3.4.2.2 Consequences for textual variation

This type of "augmented" SP compound characters in one regional script, say, region A may in some cases structurally coincide with characters that stand for different words in region B. In other words, in region B, two graphs, the one compound character and the other single component character structurally identical with the phonophoric or signific of the former are distinct characters. If we look at a text copy reproduced in the script of region A from the standards of region B, it would often appear that a compound character which stands for a phonetically similar word is used instead of an expected single component character. We could, for example, relate the imaginary text copy from region A with a Western Han Mawangdui silk manuscript which would maintain some Warring States Chu character structures and that from region B with a matching received version in the modern standard script which is greatly influenced by the W.S. Qin script.

Take for example the character 詐 (大鼎) for *zuò* ***ttsak** 'make' in the table above. In the received standard orthography, its structurally coincident character 詐 stands for *zhà* ***ttsrak-s** 'deceive' or 'pretend'. Compare this with the *Shuowen* definition, "*zha* means 'deceive'" (詐, 欺也; 3a/99). The two words *zuò* ***ttsak** 'make' and *zhà* ***ttsrak-s** 'deceive', given their phonetic and semantic relation are no doubt members of the same word-family, with the latter having *-s suffix for an intensifying or outer-directed meaning. The semantic relation of these Chinese words is analogous with the positive (or neutral) and negative connotations of the English words *fabricate* or *make up*. In the Qin script, the 詐 is a derivative of 乍 standing for a different but etymologically related word, whereas in the script of the Zhongshan corpus the same form 詐 is a variant form of 乍.

Imagine we found a textual variant such as the following where the word *zuò* 'make' is expected.

> 詐 in version A :: 乍 in version B :: 作 in version C

The 詐 could appear to be a "phonetic loan" for a near-homophonous character 作 from the standard of the script of C and vice versa. From the standard of B, the use of 詐[76] and 作 would also look like a "borrowing", but in this case, of "a more complex character than the proper, simpler one". In fact, the variation such as 詐 ~ 乍~ 作 can appear as regional variants or even variants within a region in the script of the W.S. period. I am suggesting that the traditional understanding of the *tongjia* phonetic loan practice, which is the idea that there existed a convention of using a (near-) homophonous character in place of the proper one in the early writings, misses the true explanation for the phenomenon. When we deal with variant forms in early manuscripts, even as late as those of early Western Han such as the Mawangdui silk manuscripts, we need to look at them with the expectation that they would maintain a good deal of the W.S. writing conventions.[77] This applies also to graphic variations in received early texts, which are consequences of reproductions and transmissions via various regions, i.e., various regional scripts.

SHZY has the single component variant 工 (str.16) used for *gōng* 'accomplishment'. The W.S. compound character 攻 found in the Qi and Chu scripts is structurally coincident with the received Qin standard form 攻 for *gōng* 'attack'. Consider the following line from the Guodian "Laozi-A" Chu manuscript (str.39) with its received counterpart.

> Guodian: 貴福喬, 自遺咎也, **攻**逑身退, 天之道也.
> Received: 富貴而驕, 自遺其咎, **功**遂身退, 天之道.
> If one is arrogant while being wealthy and of high status, he will cause regrets for himself. One's accomplishments follow while one's own person recedes. This is the Way of heaven.

The Guodian version has 攻 corresponding to the received 功 interpreted as *gōng* 'accomplishment'. Note the *Shuowen* definition for the 功: "*gong* means 'stabilize a state by means of labor'" (功, 以勞定國也; 13b/699). This character is therefore a Qin script variant of the early single component form 工 'craftsmanship', possibly specialized for 'accomplishment', a different shade of meaning of the same word *gōng* 'craftsmanship'. The single component form 工 was still in use for *gōng*

77 The form 乍 survives as a rare variant of 作 for *zuò* 'make' in the MWD manuscripts. See Chen Songchang (2001: 331 and 511).

功 ‘accomplishment’ in the Mawangdui Western Han silk manuscripts (Chen Songchang 2001: 191). The textual variation 攻 ~ 功 in this case is not due to a phonetic loan, viz., the ‘borrowing’ of 攻, normally standing for *gōng* ‘attack’ for *gōng* 功 ‘accomplishment’, but simply is due to regional variation of character forms for the same word.[78]

3.4.2.3 The case of Shanghai “Zhouyi” and the received version

The following textual variants between the Shanghai “Zhouyi” manuscript and its received version can be explained in terms of the tendency to favor the compound structures in the W.S. script. SHZY characters often have a signific absent in the matching received characters.

Tendency toward SP compounding and the Zhouyi Textual variants

(str.5) 帶 {S 糸 + Ph 帶} :: R 帶 for *dài* ‘belt’

(str.52) 戻 {S 木 + Ph 戶} :: R 户 for *hù* ‘household’

(str.7) 中 {S 宀 + Ph 中} :: R 中 for *zhōng* ‘center’

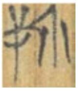
(str.51) 宔[79] {S 宀 + Ph 主} :: R 主 for *zhǔ* ‘host’

78 Characters with shared phonophorics in discovered texts often turn out to be regional variants like this. They do not provide meaningful new sources of data for a phonological study. When they are falsely accounted for as phonetic loans, as they have been for the past couple of decades, one is lead to the impression that W. S. phonology remained unchanged from OC.

79 He Linyi (1998 [2004]: 358) notes that the form 宔 for *zhǔ* ‘host’ is found in Houma and Wenxian covenant texts. The Zhongshan corpus also has this compound (中山王鼎). Rong Geng (1985: 533) and Zhang Shouzhong (1981: 33) transcribe the character in the “Zhongshan wang Cuo ding” as *zōng* 宗 ‘lineage (temple)’, differently from He Linyi. See the context where the (notated as X) occurs: 踾為人 X，臣 X 之宜... “Seniority makes one the lord/lineage of people, the propriety between the vassal and the lord/lineage...”. The character form in question is distinctive from the W. Zhou form 宗 (令簋) which remains unaltered in various W.S. regional scripts. See (Chu:酓章作曾侯乙鎛), (Jin: 中山王兆域圖) and (Qi: 陳逆簋). He Linyi seems to be right.

(str.8) 畋 {S 攴 + Ph 田} :: R 田 for *tián* 'hunt'

(str.10) 𢻃 {S 攴 + Ph 比} :: R 比 for *bǐ* 'compare'

 (str.14) 𥏛 [80] {S 矢 + Ph 介} :: R 介 for *jiè* 'border'

(str.18) 选 {S 辶 + Ph 先} :: R 先 for *xiān* 'former'

(str.23) 𦥒 {S 臼 + Ph 牙} :: R 牙 for *yá* 'fang'

(str.27) 䑙 {S 肉 + Ph 舌} :: R 舌 for *shé* 'tongue'

(str.37) 𨏥 {S 車 + Ph 乘} :: R 乘 for *chéng* 'ride'

(str.53) 𨒙 {S 辶 + Ph 旅} :: R 旅 for *lǚ* 'go on a military campaign'

(str.41) 苽 {S 艸 + Ph 瓜} :: R 瓜 for *guā* 'squash'

(str.44) 汬 {S 水 + Ph 井} :: R 井 for *jǐng* 'water-well'

(str.44) 浴 {S 水 + Ph 谷} :: R 谷 for *gǔ* 'ravine'

80 Note the following received characters for the semantic functional value of 矢: *jǔ* 矩 'type of ruler', *duǎn* 短 'short', *yuē* 矱 'measure' and *bà* 矲 'short'. The 矢 has to do with line-drawing or measurement, which seems to be a fitting signific for such a word as 'border'.

(str.47) 羕 {S 永 + Ph 羊} :: R 永 for *yǒng* ‘enduring’

(str.51) 斗主[81] {S 斗 + Ph 主} :: R 斗 for *dǒu* ‘Big Dipper’

(str.20) 禣 {S 示 + P 眚 (< S 目 + Ph 生)} :: R 省 for *shěng* ‘reduce’

(str.14) 倗土 {S 土 + Ph 倗 (< S 人+ Ph 朋)} :: R 朋 for *péng* ‘cohort’

(str.22) 僮 {S 人+ Ph 童} :: R 童 for *tóng* ‘adolescence’[82]

(str.5) 飤[83] {S 人 + Ph 食} :: R 食 for *shí* ‘eat’

A few generalizations can be noted from the SHZY examples of compound characters above.

(i) When an earlier single component character is turned into an SP compound, the added component is a signific in the great majority of cases. This suggests that in the minds of the users of the W.S. script, single component characters were perceived primarily representing words’ pronunciations and not meanings. Out of twenty one examples above, only two cases, 斗主 for *dǒu* 斗 and 羕 for *yǒng* 永 ‘enduring’ have added a phonophoric instead of a signific. The

81 This character for *dǒu* 斗 (OC ***ttoʔ**) contains 主 (Cf. *zhǔ* ***toʔ** 主 ‘host’) (He Linyi et al. (2006: 5). Compare 斗 (秦公簋) without the added phonophoric.

82 The *Shuowen* Qin Seal form for this word has the same structure: 僮, 未冠也 (8a/365) “*tóng* means ‘not yet have had the cap wearing (the coming of the age ceremony)’”.

83 The single component structure 食 for *shí* ‘eat’ or ‘food’ appears in OBI, but this word is predominantly in the SP compound form 飤 (命簋) throughout the Zhou period. E.g., in 芮公作鑄飤鼎 (JC 2475, late W. Zhou or early S.A) “Lord of Rui ordered the casting of this *ding*, food-vessel.”, in 是以遊夕飲飤 (JC 9735, early W.S.) “This is to be used to drink and eat for evening festivities.” In the Mawangdui early Han silk manscripts the form 飤 still survives as an occasional variant to 食 (Chen Songchang 2001: 206-7).

compound form 羕 is also found in a bronze inscription from the Qi region (陳逆簠). Xu Shen based on the *Shijing* line 江之羕矣 “The River has been running long (i.e., enduring),” (‘Han guang 漢廣’, Mao 9) defines the 羕 as “for a river to be long” (羕, 水長也, 从永羊聲. 詩曰，江之羕矣; 11b/570). Xu Shen gives exactly the same definition to *yǒng* 永 (水長也; 11b/569). This suggests that the Qin script had variant forms 羕 and 永 for the same word. Duan Yucai notes that the *Maoshi* and *Hanshi* versions vary with each other by having 永 and 羕 respectively in this *Shijing* line (p. 570). We can see that this textual variant is due to the alternation of the two variant forms 永 and 羕, the former being in the old W. Zhou single component structure and the latter in the new compound that arose in the W.S. period.[84]

(ii) An old SP compound character can be augmented by another signific. From the perspective of the W.S. script, these compounds should be analyzed as “S + P (< S+P)” rather than “S + S + P”. The W. Zhou predecessor of the form 禬 is 眚 (盂鼎) consisting of the signific 目 ‘eye, watch’ and the phonophoric 生 ***Seŋ**. It seems reasonable to assume that the 眚 was taken as a whole as a phonophoric when the signific 示 was added. In the modern character the original phonophoric 生 is eroded and is replaced by the graphically similar component 少. Similarly, the Chu character 堋 has a signific 土 ‘ground’ added to an original compound 倗. Pu Maozuo (2003: 155) transcribed as 塱. But compare the Chu bronze form 倗 (王孫鐘) and also the W. Zhou forms (倗卣) or (多友鼎) for *péng* ‘cohort’, which is distinguished from 朋 (中作且癸鼎) for *péng* ‘cowrie shell’. The component 人 surrounding the top and right side of 朋 has various shapes, which is barely identifiable in the Chu forms. In this case the graphic distortion of the original 人 might have played a role in the introduction of the new signific 土 ‘ground’.

(iii) As mentioned above compound forms often have a single component variant received from the W. Zhou script. The following SHZY characters appear in both single and compound forms.

hù 户 ‘household’ 戻 (str.52) *vs.* 户 (str.5)

84 The structure 羕 appears in an early W. Zhou bronze inscription as seen in (羕史尊), but this character stands for a person’s name.

zhōng 中 'center' 㝕 (str.7) *vs.* 中 (str.39)

bǐ 比 'compare' ⿰比攵 (str.10) *vs.* 比 (str.10)

héng 恆 'constant' 絚 (str.28) *vs.* 亙 (str.15)

zhōng 終 'cease' ⿱冬心 (str.12) *vs.* 冬 (str.3)

With the extension of SP compounding to nearly all characters in the W.S. script, the addition of a signific can be regarded as orthographic embellishment that seems to contribute the aesthetic appeal to the orthographic style. We have seen in the Zhongshan corpus that structurally more complex characters tend to be preferred over simpler variants in an elaborate writing style.

(iv) The distinction between simple and compound forms is in some cases orthographically contrastive. As seen in the following cases, such distinctions appearing consistently between Chu and Qin scripts reflect an inter-regional standard in the W. S. script.

⿰禾𠬪 (str.20) for *huò* 穫 'harvest' *vs.* 𠬪 (str.48) for *huò* 獲 'capture'

The two etymologically related words, *huò* ***GGʷak** 穫 'harvest' and *huò* ***GGʷrak** 獲 'capture' are graphically differentiated by the addition of *hé* 禾 to the former.

汲 (str.45) for *jí* ***kəp** 汲 'draw water from a well'

We can see that the *jí* ***kəp** 汲 and *jí* ***kəp** 及 'reach' are etymologically the same word. This is a case where a graphic derivative is made for a different shade of meaning of the same word.

易 (str.55) for *yì* 易 'exchange' *vs.* 賜 (str.7) for *cì* 賜 'bestow'

The *yì* ***lek** 易 'exchange' and *cì* ***slek-s** 賜 'bestow' are distinguished in the W.S. script. Note also (中山王鼎). In W. Zhou bronzes the word *cì* is normally written as 易 (庚嬴卣).

(v) When we find a textual variant between a manuscript and its received counterpart where a compound character in the former corresponds to a single component character in the latter, we are well advised to suspect the possibility that it is a reflection of Warring States variant forms. Take for example, the form 汬 (str.44) matching 井 in the received version. Xu Shen gives 汬 as a *guwen* variant of 阱 which he defines as 'pitfall' (阱，陷也…古文阱从水; 5b/216). Although this definition finds some attestations in received texts we cannot take the Chu form as standing for 'pitfall' to think that the Chu version is different from the received in this textual instance. Consider the phonetic and semantic relation between *jǐng* 阱 and *jǐng* 井:

> *jǐng* 阱 ***dzeŋʔ** (or ***N-tseŋʔ**) 'pitfall'
> *jǐng* 井 ***tseŋʔ** 'water-well'

Both are holes dug in the ground; one is for capturing animals and the other is for drawing water. These two seem etymologically related and thus we can assume a common root ***tseŋʔ** 'pit' for both. The character 阱 is a graphic derivative from 井 which was circulated, if not generated, in the Qin script. From the context of the *Zhouyi*, it is clear that 汬 of the Chu script stands for *jǐng* 井 'water-well'.

> SHZY: 初 六 汬 替 不 飤...
> Received: 初 六 井 泥 不 食...
> Six on the first. The well is muddy. Do not drink (from it) (Hex.48 *Jing*).

> SHZY: 九 五 井 洌 寒 泉 食
> Received: 九 五 汬 [illegible] 寒 湶 飤
> Nine on the fifth. The well is clear. There is a cold spring. Drink (id.).

In Xu Shen's *guwen* source texts, the character form 汬 may have been used for both of the two etymologically related words *jǐng* 'water-well' and *jǐng* 'pitfall'.

Likewise the character 浴 (str.44) corresponding to 谷 is a variant of the latter for the same word. It is only in the modern script that the two forms are distinguished for different words, namely, *yù* 浴 ***[g]ok** 'bathe' versus *gǔ* 谷 ***kkok** 'ravine'. See the SHZY line where the character 浴 occurs.

SHZY: 九 二 汬 浴 弤 豿 隹 袝 縷
Received: 九 二 井 谷 射 鮒 甕 敝 漏
Nine on the second. One shoots a *fu*-fish in the well water [only to make] the water-drawing bucket break and (the water in it) leak (Hex.48 *Jing*).[85]

We need to look at Chu compound characters in the light of the predominance of SP compounds and examine the context where they occur rather than simply reading the forms as they would be read in the received orthography.

3.4.3 The case of the *fu* 簠 vessel [86]

As seen above, different significs alternating for the same word or word family are often semantically related. We may call those significs which are interchangeable for their equal semantic functional value *synonymous significs* (SS).[87] As will be illustrated in this section, the same principle applies to phonophorics: those with the same functional value, i.e., those standing for the same syllable type (= homorganic initial combined with identical rhyme) alternate for characters writing the same etymon. We may call those interchangeable phonophorics *equivalent phonophorics* (EP). Phonophorics in general are more stable than significs: in particular, variants displaying equivalent phonophorics in the later stages of the early Chinese writing system, such as those found in writings of S.A., and W. S. times, tend to appear region-externally rather than regiona-internally. These regional variants are in most cases found to be of equal functional value in a single phonophorical system, viz., the Old Chinese with relatively fewer cases reflecting dialects of the Old Chinese or a later, post-*Shijing* phonology.

The alternations of synonymous significs (SS) and equivalent phonophorics (EP) in principle work independently of each other. Thus a pair of SS and a pair of EP can result in four structurally distinct compound forms writing a single etymon; this is when each compound has one signific and one phonophoric; but

85 I follow Gao Heng (1947 [1973]: 166) on the interpretation of this line.
86 An earlier version of this section was published in *Asiatische Studien* (Zürich) LXIII·4·2009, 857-887, with the title "Linguistic approaches to reading excavated manuscripts".
87 This now well-known thesis that significs denoting similar meanings can be used interchangeably in the early Chinese script was first articulated by Tang Lan (Gao Ming 1987: 146). Tang Lan (1965: 55 in vol.2) swiftly makes his point just giving two examples, 巾 'kerchief' ~ 衣 'cloth' appearing in a few characters such as *cháng* 常~ 裳 'lower-garment', and likewise 土 'ground' ~ 阜 'mound' for a few such as *jiāng* 疆~ 𬮦 'border'. An extensive list of such interchangeable significs is found in Gao Ming's 1987 book, 146-180. Some of Gao's examples are 牛 'cow' ~ 羊 'sheep', 目 'eye' ~ 見 'see', 日 'sun' ~ 月 'moon', 首 'head' ~ 頁 'top'.

SS and EP in each case can be augmented on their equivalents, forming double significs and double phonophorics in a character. (In fact, there are some SS that regularly co-occur. See section 5.1.). So the number of variants that a single pair of EP and SS can generate is as large as eight, although in practice, writing conventions in a community would prevent such extreme proliferation. But it is significant that variants with SS and EP for one etymon often become specialized in their use for specific cognates, or for certain meanings of the same cognate within a word family. Regional differences in selections for specific cognates may result in region-external textual variants that appear as alternations of cognate words. We will come back to this point in Chapter Five. In this section, I will present the story of a ritual-vessel known as *fŭ* 簠 as an exemplary case of variant forms generated both by synonymous significs and equivalent phonophorics.

The Zhou bronze vessel type identified as *fŭ* 簠 known from received early texts since the Song dynasty work *Kao gu tu* 考古圖 by Lü Dalin 呂大臨 (1046–1092) is a distinctively square-shaped vessel. The *Zhouli* 周禮 ("Diguan 地官", 'Sheren 舍人') has the line: 凡祭祀共簠簋實之陳之 "For any sacrificial offering, the [food] offerings are filled in the *fu*-vessel and *gui*-vessel to be laid out [on the offering table]," to which Zheng Xuan 鄭玄 (127–200) notes "when [the offering vessel is] square-shaped, it is called *fŭ* 簠, when round, it is called *guĭ* 簋"[88]

In bronze inscriptions on this *fu*-type vessel the characters that write the name of the bronze vessel are extremely varied in their graphic structure. Some of these character forms have phonophorics that indicate distinct pronunciations suggesting that the *fu*-vessel actually had different names. Note first that Zhou ritual bronze inscriptions have formulaic text structures. These text formulas were established in the early W. Zhou period and continued to be repeated on all vessel types throughout the W. and Eastern Zhou periods in all feudal states. Some examples are as follows. For the sake of discussion we will give X for the character in the textual position for the vessel's name while giving a broad transcription for the other words in the text.

88 *Shisanjing zhushu*, "Zhouli zhushu 周禮注疏", p. 749.

射南自作其 X. late W. Zhou, JC 4480
Archer South made the X for himself.
虢叔作旅 X 其萬年永用 late W. Zhou, JC 4514
Uncle-lord of Guo made the X for the expedition. May it be used forever, for ten thousand years.

塞自作旅 X 其子子孫孫永寶用 late W. Zhou, JC 4524
Se made the X for himself for the expedition. May sons' sons and grandsons' grandsons forever treasure and use (it).

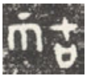
内大子白作 X 其子子孫孫永寶用. late W. Zhou, JC 4538
The heir apparent Bai of Nei made the X. May sons' sons and grandsons' grandsons forever treasure and use (it).

季宮父作仲姊嬛姬賸 X 其子子孫孫永寶用 late W. Zhou, JC 4572
Sir Jigong made the X as a nuptial bestowal for his middle elder sister Huai (?) Ji. May sons' sons and grandsons' grandsons forever treasure and use (it).

鄀公諴作旅 X 用追孝于皇祖皇考用賜眉壽萬年子子孫孫永寶用 late W. Zhou, JC 4600
Lord Xian of Ruo made the X for the expedition to proceed with filial sacrifices to the deceased grandfather and the deceased father and to bestow (with it) for its full life of ten thousand years. May sons' sons and grandsons' grandsons forever treasure and use (it).
唯正月初吉丁亥許子妝擇其吉金用鑄其 X 用賸孟姜秦嬴其子子孫孫永保用之
S.A., JC 4616
It was in the beginning auspiciousness (i.e., first week) of the first month, on the *ding hai* day when Lord of Xu, Jiang selected the fine metal and used (it) to cast the X so as to use (it) to accompany Lady Elder Jiang, Qin Ying (to her newly married home). May sons' sons and grandsons' grandsons forever cherish and use it.

In some 160 inscriptions on the *fu*-vessels collected in the *Yin Zhou Jinwen Jicheng*, many of them being repetitions of identical texts cast individually on each object, there are about twenty different written forms for the word X, the name of this square vessel. In these variant character forms are found seven different significs and five different graphs suspected as phonophorics. In a few inscriptions a two character expression "匩 𠥃" is used in the position for X while each of these two characters also appears by itself to write the vessel's name (Liu Xiang 1986: 459). The characters for X can be divided into five groups by the functional values of phonophorics used in them.

1. The *Ka type

(a1) (a2) (b) (c) (d1) (d2) (e) (f) 

a: S {匚 ‘square container’} + Ph {古}

b: S {匚 + 金 ‘metal’} + Ph {古}

c: S {金 + 皿 ‘vessel’} + Ph {古}

d: S {匚 + 攴 ‘treat’} + Ph {古}

e: S {金} + Ph {古}

f: S {示 ‘ritual’} + Ph {古}

This group of characters have in common the phonophoric 古 (Cf. *gǔ* ***kkaʔ** 古 ‘old’) which suggests a syllable type ***Ka**. Combined with this phonophoric are various significs that indicate some aspects of the meaning of the written word. These are 匚 ‘(square) container’ which appears in two variant forms of mirror images (a1 and a2), 金 ‘metal’, 皿 ‘vessel’, 攴 ‘treat’, written also in an abbreviated variant, 卜‘treat’ in a duplicated inscription (d1 and d2), and 示 ‘ritual’.

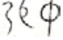
2. The *Pa type

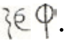
(a) (b) (c)

a: S {匚} + Ph {夫}

b: S {匚 + 弭 (?)} + Ph {夫}

c: S {竹 ‘bamboo’} + Ph {夫}

This group shares the phonophoric 夫 (Cf. *fū* ***pa** 夫 ‘grown man’) suggesting a syllable type ***Pa**. Form (a) has the top horizontal stroke of 夫 merging with a horizontal line of the component 匚 as we can infer from form (c). Form (b) has a form that resembles 大 which seems to be a further abbreviation of 夫 with the top horizontal stroke omitted. This character form has two additional elements on either side of the phonophoric 大 (< 夫). The one on the right side resembles 耳 but the left is puzzling. The name of the vessel-maker, 弭中(仲) “Middle uncle-lord of Mi (state)”, appears three times in the inscription as (i) (ii)  (iii)

. It seems possible that this personal name is copied onto the character. Once the two necessary components are present, one phonophoric and one signific of the conventional kinds, this type of impromptu graphic modification seems to have been allowed and did not deter the recognition of the character.

The *Shuowen* records the form ⿷匚夫 as a *guwen* variant of the Qin Seal form 簠 (簠...⿷匚夫古文簠，从匚夫 , 5a/194). This shows that ⿷匚夫 and 簠 were regional variants by the W. S. period, the former used in a certain non-Qin script contrasting with the latter in the Qin script.[89] But the origin of the alternation 夫~甫 may be earlier than the W.S. period.

3. The ***K^{w}aŋ** type

(a) (b) (c)

a: S {匚} + Ph {黃}

b: S {匚} + Ph {㞷 }

c[90]: S {匚 + 金} + Ph {㞷}

This group includes two distinct phonophorics, 黃 and 㞷 (> 往) that have the same phonetic functional value, viz., ***K^{w}aŋ**: *huáng* ***gg^{w}aŋ** 黃 'yellow' and *wǎng* ***G^{w}aŋʔ** 往 (< 㞷) 'go'. Form (a) comes from a *fu*-type vessel approximately dated to late W. Zhou period, excavated in Shaanxi Fufeng 扶風, the homeland of the W. Zhou ruling house, and (b) from one whose caster is inscribed as 史免 "Scribe Mian". The latter is identified as a court official during the reign of the Western Zhou King Yi 懿 (r. 934–910 BCE).[91] So in this case, the two phonophorics were likely to have been used contemporaneously within a single region. Even if an individual scribe did not actually use them simultaneously, they were acceptable

89 The major source of the *guwen* script is supposed to be texts written on bamboo strips discovered during early Western Han in the Qi region (the so-called "Confucius's wall texts") as discussed in Chapter One. It is interesting that we find a character form with the phonophoric 夫 on a *fu*-vessel that comes from the Qi state of the W.S. period. The 夫 is not found in discoveries from the southern region surrounding the Chu state.

90 The form (c) is a very strange variant which has a normal structural composition but is executed in an upside down image.

91 See Guo Moruo (1935: 90).

alternatives for the same word in the late W. Zhou period around the capital region.

The word of the syllable type ***Kʷaŋ** represented by this group is distinct from the *fŭ* ***paʔ**, and so it ought to be another name for the *fu*- type vessel. That is to say, these are synonyms that alternate in matching textual positions.

4. Undeciphered phonophoric

(a1) (a2) (b) (c) (d)

a: Ph { }

b: S {匚} + Ph { }

c: S {匚} + Ph { + 夫}

d: S {金} + Ph { }

The graph seems to be phonophoric, but it is not identified with any graphic component in the inventory of the received writing system. This graph can stand alone as in form (a) or can be combined with the usual significs such as 匚 and 金 as in (b)-(d). Form (c) has an additional phonophric 夫 ***Pa**. It is not uncommon in the early Chinese script for one character to contain two phonophorics of the same functional value. This then identifies this group with Group 2 (夫), standing for the word *fŭ* 簠. The unidentified graph has a simplified variant as seen in (d). Form (a2) has an extra horizontal line across the vertical center stroke. This together with the hemisphere-shaped graphic element right underneath it resembles the graph 古 closely. This then would serve as a link between the two syllable types 古 ***Ka** and 夫 ***Pa**. But we cannot be sure if that horizontal stroke is in fact functionally meaningful or historically legitimate.

5. ***Paŋ** type

S {匚 + 金} + Ph {匚}

This character consists of 匚 and 金, both of which regularly occur as significs in the groups above. This could be one of the comparatively rare cases in which the phonophoric is omitted instead of the signific. It seems more likely, however, that one of the two components was re-interpreted as the phonophoric. The graph 匚 is a plausible candidate because, as will be discussed shortly, it is both semantically and phonetically related to the *__K^{w}aŋ__ type word represented in Group 3.

The phonophorics in the variant character forms discussed so far suggest four distinct OC pronunciations: 古 for *__Ka__, 夫~甫 for *__Pa__, 黃~ 往 for *__K^{w}aŋ__, and 匚 for *__Paŋ__. It is probable that the first two and last two in each case reflect a single word which has undergone a sound change in the initial consonant from *__K$^{(w)}$__- to *__P-__, viz., labialization of a velar initial.

This is not a regular sound change in the 'yayan 雅言' standard phonology, whereby the OC velar initials are retained as such, or palatalized under a condition that is yet to be discovered. Rather, it appears that the labialized variants were borrowed into the standard lexicon from a different dialect. It will be shown in the examples to be discussed below that the labialization in that supposed donor dialect included uvular initials as well, and that as far as we can see from the received literature, the dialect loans in some cases completely displaced the original velar/uvular ones (i.e. the ones which properly belong to the standard phonology), but in other cases they also co-existed with the latter as synonyms. It seems that the alternation of labial and uvular initials for cognate words through dialect mixture existed already in early W. Zhou period.[92]

The old phonophoric 古 remained in use throughout the Eastern Zhou period in various regions such as southern states of the "Chu culture" area including Chen 陳, Cai 蔡, Xu 許, Fan 番, Ruo 鄀, Chu 楚 and Zeng 曾 as well as in the eastern states of Qi 齊, Lu 魯, Xue 薛 and Zhu 邾 and the central Jin 晉, just to list some of the regions that have yielded archeological evidence. In addition we find the 夫 and 古 alternate in two *fu*-vessels that come from the same state, Qi 齊, dated to two consecutive reign periods:

92 Consider for this case the two words *fǎ* *__pap__ 灋 (法) 'rule, law' and *fū* *__pa__ 膚 'skin'. The character 灋 has the graph 去, which indicates the syllable type *__Ka__(__t~p__): 去 *qù* *__k^{wh}a-s__ 'depart' and 却 *què* *__k^{wh}at__ 'retreat', 盍 *hé* *__ggap__ 'thatch, cover'. Karlgren considered all of these belonging to the same *xiesheng* series despite the alternations of k- and p- and –t and -p (GSR #642). The character 膚 has the apparent phonophoric 虎 *hǔ* *__qq^{h}raʔ__ 'tiger'. In Chu manuscripts, this phonophoric alternates with 夫 indicating *__Pa__ for the word *fū* *__pa__ 'skin'.

“Chen ni fu 陳逆簠”[93] Qi Ping gong 平公 (r.480–456 BCE), MWX 853

“Chen man fu 陳曼簠” Qi Xuan gong 宣公 (r.455–404 BCE), MWX 861

The presence of the 夫 is a strong indication that this word was pronounced like ***paʔ** in this region in the early W.S. period. This means that, the 古 which reflects the OC pronunciation ***Ka** was “read” as *fŭ* ***paʔ** there for this particular word. In inscriptions from Chu, we do not find an OC ***Pa**-type phonophoric for the *fu*-vessel. Rather, it is always the form (楚王酓肯簠, MWX 662) that writes the word. One cannot assume based on this character structure that the word *fŭ* in the Chu dialect was pronounced like ***Ka** differently from the Qi dialect or late W. Zhou Old Chinese.

Thus the six phonophorics including the 甫 in the received character are divided into two groups, {古, 夫, 甫} and {黃, 往, 匚} by the words they represent. These two groups constitute in each case a set of *equivalent phonophorics* (EP). The various significs appearing in groups 1 (古) and 2 (夫), now identified with the word *fŭ* 簠, are likewise *synonymous significs* (SS). As has been assumed all along, the necessary condition for EP is that they stand for the same syllable type (initial consonant of the same point of articulation and identical rhyme). By contrast, the condition for synonymous significs is somewhat less concrete. Generally speaking, significs that indicate the same semantic category tend to alternate with one another. (And of course, defining semantic category itself involves subjectivity to a greater degree than assessing phonetic compatibility does). But, because each alternative signific for a given word is intended to indicate a certain semantic aspect of the word, the members in a given set of SS may not always be synonymous with one another. For instance, three distinct semantic categories can be drawn up from the SS for *fŭ* 簠:

VESSEL:	匚 ‘(square-shaped) container’, 皿 ‘vessel’
MATERIAL:	金 ‘metal’, 竹 ‘bamboo’
RITUAL, TREATMENT:	示 ‘ritual’, 攴 ‘treat’

93 The dates of these two bronze vessels are taken from He Linyi (2003: 99).

These categories have to do with the following semantic aspects of the written word: the *identity* of the object denoted by the word (i.e., vessel), the *material substance* of the object in question or objects like it (i.e., wooden or metal), and finally the *circumstances* in which the object or word is used (i.e., ritual offering). The following table lists all variant forms surrounding the names of the *fu*-vessel.

Compositional variability: characters for the names of fu-vessel

words	**Equivalent Phonophorics**	**Synonymous significs**	**variant forms**
word I ***Ka > *Pa**	古 *Ka, 夫 *Pa, 甫 *Pa	匚 'square container' 金 'metal' 皿 'vessel' 竹 'bamboo' 攴 'treat' 示 'ritual'	𠥍, 𠥎, 祜, 𥁕, 鈷, 𠥓, 𠥏, 𠥩, 笶, 簠
word II ***Kʷaŋ > *Paŋ**	黄 *Kʷaŋ, 㞷 *Kʷaŋ, 匚 *Paŋ		𠥻, 匩, 𨭚, 𨥀

As with a signific or phonophoric reused for different words, a set of SS or EP assigned to one word tends to recur for another word. For example, the SS {金 'metal', 皿 'vessel'} for *fǔ* 簠 above is also used regularly for *zhù* 鑄 'cast' and in some variants for *xǔ* 盨 'type of bronze ritual vessel'.[94]

The EP {夫, 甫} found for *fǔ* 簠 is repeated in the following cases. In an early Western Zhou bronze inscription both 夫 and 甫 are used in a character for a person's name.

> 小臣𨘋即事于西，休仲賜𨘋鼎 early W. Zhou, JC 2581
> Lesser official Fu had just been appointed to the Western Region. Lord Xiu granted him the *ding*-vessel.

In an inscription from the early S.A. period, the form 甫 is used for the word *fū* 夫 as in *fū rén* 夫人 'primary wife'.

> 黄子作黄甫人孟姬器... early S.A., JC 2566
> The lord of the Huang state made the vessel for his wife Lady Elder Ji.

94 See Rong Geng (1985: 908–11, 341–43).

We find an alternation of 夫 and 甫 in a textual correspondence between the SHZY and received *Zhouyi*. The word represented by the variants is *bū* ***ppa** 逋 ‘escape’.

> SHZY: 九二不克訟遈肤 其邑人晶四戶
> Received: 九二不克訟歸而逋其邑人三百戶
> Nine on the second. He did not win the litigation. He returned and then helped three or four (SHZY)/ three hundred (R) households of people in the town escape (Hex.6 *Song* 訟).

Finally there is a word family with the root meaning √ASSIST, whose cognate words are written either with 夫 or 甫.[95]

扶	*fú* < *bju* < ***ba**	‘support’
輔, 俌	*fǔ* < *bjuX* < ***baʔ**	‘assist’ ‘strut (of a chariot)’
賻	*fù* < *bjuH* < ***ba-s**	‘gift money (especially for a funeral)’
傅	*fù* < *pjuH* < ***pa-s**	‘tutor’

I suggested earlier that the alternation of the phonophorics 古 and 夫~甫, and that of 黃 ~ 里 and 匚 in the characters for the names of ‘*fu*-vessel’ is due to labialization of an original velar initial. This supposition can be strengthened if we can find parallel cases in the Old Chinese lexicon. Consider the following cases.

Phonophoric series

The word *pēng* 烹 is written with the graph 亨 in common with two other words that have a uvular initial.

烹	*pēng* < *phæng* < ***pp^{h}raŋ**	‘boil’
亨	*hēng* < *xæng* < ***qq^{h}raŋ**	‘success’ (in the *Zhouyi*)
享	*xiǎng* < *xjangX* < ***q^{h}aŋʔ**	‘type of sacrificial offering, feast, enjoy’

While recognizing the graphic connection among these items, Karlgren chose to treat them in two separate series (GSR #716, 751) because the difference in the initial as ***p-** and ***q^h-** apparently disqualifies them for belonging to the same phonophoric series. One can assume that the 亨 was initially chosen to write *pēng* as a phonophoric at a time and place in which the word had a uvular initial. And as Karlgren notes, there is a use of the character 亨 for the word *pēng* 烹 in the *Shijing* (“Xiaoya 小雅”, ‘Chu ci 楚茨’). The MC labial initial for *pēng* should then have come from an OC variety in which the uvular initial became labialized.

95 This word family is presented in Wang Li (2000: 1398).

Textual variants

The MWD manuscript version of the *Zhouyi* has the character 芳 with the Ph 方 ***Paŋ** (Cf. *fāng* 方 ***paŋ** 'direction') in the position for the word *xiǎng* ***q^{h}aŋ?** 享 'type of sacrifice' of the received version.

Received: 上六...王用享于西山
MWD: 上六...王用芳于西山
Six on the top [...] The King made the *xiang* -sacrifice at the West Mountain (Hex.17 *Sui* 隨).

Received: 九二...利用享祀
MWD: 九二...利用芳祀
Nine on the second [...] It is beneficial to use the *xiang*- sacrificial ceremony (id.).

The MWD character 芳 in another line in the same hexagram corresponds to *jì* 祭 'type of sacrificial ceremony'.

Received: 九五...利用祭祀
MWD: 九五...利用芳祀
Nine on the fifth [...] It is beneficial to use *ji*-sacrificial ceremony (R)/ *xiang*- sacrificial ceremony (MWD) (Hex.47 *Kun* 困).

If we identify the 芳 with the word *xiǎng* 享 with the ***P- ~*q-** alternation in mind, the variation between 芳 (for *xiǎng* 享) and *jì* 祭 'type of sacrifice' is explained as an alternation of synonymous words. The MWD version reveals at this point a dialect that has a labial initial corresponding to the OC ***q^{h}**-for the word *xiǎng* 享.

Etymology

The two words *xiāng* 香 and *fāng* 芳 alike mean 'fragrance', but one has a uvular initial and the other a labial. It seems likely that they are in origin cognate words that go back to the same root with a uvular initial.

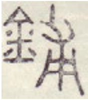
香	*xiāng* < *xjang* < ***q^{h}aŋ**	'fragrance'
芳	*fāng* < *phjwang* < ***p^{h}aŋ**	'id'

The labialization hypothesis provides a clue to the interpretation of the compound expression (匡匠) that occurs in the textual position for the vessel name *fǔ* 簠. Suppose the first character 匡 which suggests the syllable type ***K^{w}aŋ** is a variant form for *kuāng* 筐 'square container'. This word, assumed as a case of

velar-labialization, can be related to *fāng* ***paŋ** 方 'square' and *fāng* ***paŋ** 匚 'square container'. It seems that these two are one and the same etymon. The expression "⿷匚㞷⿷匚古" would mean 'square shaped -*fu*' where the first word is a qualifying modifier.

筐	*kuāng* < *khjwang* < ***kʷʰaŋ**	'square shaped basket or object'
方	*fāng* < *pjwang* < ***paŋ**	'square, quarter (i.e., region)'
匚	*fāng* < *pjwang* < ***paŋ**	'square container'

Recall that the word for '*fu*-vessel' is written with the Ph 甫 in the received character 簠, but this phonophoric is not found in inscribed characters on the *fu* bronze vessels discovered so far. Interestingly, there is a different vessel type whose name is written regularly with 甫[96]. This bronze vessel resembles the *dou* 豆-type.

6. (a) (b) (c)  (d)

a: Ph {甫}

b: S {竹} + Ph {甫}

c: S {金} + Ph {甫}

d: S {匚 +肉 'meat'} + Ph {甫}

The question is, is the *word* that refers to this *dou*-like vessel the same as the word *fǔ* ***paʔ** 簠 or not? It seems possible that the word *fǔ* ***paʔ** was a generic word for 'pedestal bowl (with cover)'[97] as we observe the common features of the two vessel types in question. The distinctively square *fu* is a relatively new vessel type compared to other Shang and Zhou bronze vessels. The distribution of the archeological finds suggests that the *fu* bronze type emerged in mid-Western Zhou and became common in late Western Zhou. The word *kuāng* ⿷匚㞷 (筐) 'square container'

96 I am grateful to Olivier Venture for pointing out this fact to me. The *Yinzhou Jinwen Jicheng* classifies this vessel under the category of *dou* (volume 9, inscription nos. 4651–4695) and uses the graph ⿱竹甫 for the name of this vessel.
97 I took William Watson's wording (1961: 95) for the description of the *dou*-vessel.

used optionally in front of the word *fǔ* would have been intended to distinguish the "square-shaped" *fu* from the generic *fu*. So the graphic distinction between 夫 and 甫 or 古 and 甫 that seems to have been made in one region or another as can be surmised from the available archeological samples is to distinguish the two *objects* and not two distinct *words*.

Contrary to this supposition one might wonder if this *dou*-like "甫" vessel is the intended referent of the word represented by the Qin Seal form 簠, distinct from the word for the square type?[98] When Xu Shen identified the word/character 簠 with ⿷匚夫, he was basing himself on a *textual correspondence* between the two graphic forms in received and *guwen* versions of early texts. The superficial non-resemblance of the two compared character forms should not and did not keep him from identifying the word correctly.

On the archeological side we have the *guwen* form ⿷匚夫 inscribed on a distinctively square type ritual bronze vessel, alternating with other character forms such as ⿷匚古. This links the *fǔ* 簠 with another archeologically attested phonophoric, 古. Also, the received character 簠 is sometimes written in early texts variously as 胡~瑚 (Chen Chusheng 2004: 478).

> 仲尼曰，胡簋之事 則嘗學之矣 — *Zuozhuan*, "Ai gong 哀公 11"
> Zhongni said, "Matters of *fu* and *gui* ritual vessels, I have studied them before".
>
> 有虞氏之兩敦，夏后氏之四璉， 殷之六瑚，周之八簋 — *Liji*, "Mingtang wei 明堂位"
> There were two *dui* vessels for the Yu clan, four *lian* vessels for the Xiahou clan, six *fu* vessels for Yin, and eight *gui* vessels for Zhou.
>
> 簠簋俎豆，制度文章，禮之器也 — *Liji*, "Yueji 樂記"
> The *fu*, *gui*, *zu* and *dou*, the prescribed rules and their elegant variations are the instruments of ceremony.[99]

These lines are not from matching versions of the same text, but they have comparable context and moreover regularly collocate *fǔ* 簠 and *guǐ* 簋: *Zuozhuan* 胡簋 :: *Liji* "Mingtang wei" 瑚簋 :: *Liji* "Yueji" 簠簋. Textual evidence together with archeological attestation agrees with Xu Shen's account of the *word*. What Xu Shen was not aware of is the existence of the distinctively square vessel that the word *fǔ* was used for. Xu Shen said that the *fǔ* 簠 was "round".

---

98 This surely is what naturally comes to many scholars' mind, including Tang Lan 唐蘭 (Chen Chusheng 2004: 479).

99 Translation adapted from James Legge. See Chai and Chai (1976: 100 in vol.2).

> 簠，黍稷圜器也。从竹皿甫聲。 古文簠，从匚夫。
> "簠" is a *round* vessel [for containing] *shu*-millet and *ji*-millet...

Even so, he was correct in saying that the vessel was used for containing grains. The source of this explanation seems to be also textual, and it is in fact consistent with what is said in inscriptions about the use of the vessel.

The *fu* case discussed above illustrates that the variant forms for the word found in the Eastern Zhou period, either as regional variants or as region-internal variants can be traced to the W. Zhou period; the regional differences register which particular form(s) among the pre-existing ones available from the earlier orthographic stock became conventionalized in a particular region.

Phonophoric selection for *fu* 簠 'type of vessel'

Western Zhou	Eastern Zhou	Han
古~夫~ ~(甫?)	Chu 古 Qi 古~夫 Qin 甫	Received 甫~古

Sound change may motivate the generation of a new phonophoric that accommodates the contemporary pronunciation, but the new phonophoric did not necessarily displace the old phonophoric.

Cited Bronze inscriptions source list

e.g. no.	vessel name	JC no.	date	Place of discovery	Note on the vessel maker
1-a1	虢叔簠	4515	late W. Zhou	unknown	aristocrat of the Guo 虢 state (present Shaanxi Baoji 寶鷄)
1-a2	虢叔作叔殷穀簠	4498	late W. Zhou	unknown	殷穀 is the wife of 虢叔 above (Wu Zhenfeng 2006: 378)
1-b	鄀公諴簠	4600	late W. Zhou	unknown	lord of Xiaruo 下鄀 (present Henan Xichuan 淅川)
1-c	伯公父簠	4628	late W. Zhou	Shaanxi Fufeng 扶風	
1-d1	商丘叔簠	4558	early S.A	unknown	
1-d2	商丘叔簠	4559	early S.A	unknown	
1-e	西替 簠	4503	W.S.	Jiangsu Peixian 邳縣	
1-f	伯其父簠	4581	early S.A.	unknown	
2-a	叔邦父簠	4580	late W. Zhou	unknown	official of the King Li 厲 (r. 878–828 BCE) (Wu Zhenfeng 2006: 195)
2b	弭仲簠	4627	late W. Zhou	"得于驪山白鹿原" (歷代鐘鼎彝器款識法帖, Song dynasty) Cited in p.36, *Jicheng* v.9)	aristocrat of the Mi 弭 state (near present Shaanxi Lantian 藍田). See *Mingwenxuan*, vol.3, p.196.
2c	陳逆簠	4629	early W.S.	unknown	official of Qi 齊 Ping-gong 平公 (r.476–456 BCE) (Wu Zhenfeng 2006: 239)
3a	xx 簠	4516	late W. Zhou	Shaanxi Fufeng 扶風	

3b	史免簠	4579	mid W. Zhou	unknown	official of King Yi 懿 (934–910 BCE), (Guo Moruo 1935: 90)
3c	㝬叔簠	4552	late W. Zhou	unknown	aristocrat of the Hu(?) 㝬 state (With 㝬 identified as Hu 胡, present Anhui Fuyang 阜陽, *Mingwenxuan*, vol.3, p.257)
4-a1	交君子叕簠	4565	late W. Zhou	unknown	lord of Jiao 交
4-a2	鑄公簠	4574	early S.A.	Shandong Qidong 齊東	
4-b	魯士𢿱父簠	4517	early S.A.	unknown	official in the Lu 魯 state
4-c	季宮父簠	4572	late W. Zhou	unknown	
4-d	X 伯簠	4484	S.A.	unknown	
5	仲其父簠	4482	late W. Zhou	Shaanxi Lantian 藍田	
6-a	曾仲旅父㡒	4673	early S.A	Hubei Jingshan 京山	
6-b	微伯𤻮㡒	4681	mid W. Zhou	Shaanxi Fufeng 扶風	
6-c	X 公作杜嬬㡒	4684	late W. Zhou	unknown	
6-d	魯大𤔲徒厚氏元㡒	4690	S.A.	Shandong Qufu 曲阜	

4 The Chu Script

4.1 The Five-region script system

Li Xueqin (1959) in a series of three articles titled "Zhanguo timing gaishu 戰國題銘概述" for the first time classified W.S. writings into five regional scripts, Qi 齊, Yan 燕, Jin 晉, Chu 楚 and Qin 秦. Li's classification identified regional characteristics in written documents from different areas, based on discovered W.S. sources available at that time. As the word *timing* 題銘 'epigraphy' suggests, the subject of his study was mainly epigraphic materials such as bronze vessel or weapon inscriptions, and seal and pottery scripts. The late 1950s had just seen the discovery of the Chu silk manuscript from Changsha, apart from that only a few Chu bamboo texts which were mainly catalogues of funerary goods (*qiance* 遣策) were known. The script of large numbers of bamboo strip manuscripts had not yet taken an important position in the study of pre-imperial Qin archaic writing system.

Li Xueqin's regional characterization in W.S. writings was more of a generalized study *about* W.S. writings than *on* the regional scripts per se. It would be fair to say that Li's classification is more culturally and historically inclined than it is orthographically and linguistically focused. His classification centered around identification of the provenances of particular W.S. writings, for which place names, personal names and official titles in the inscriptions served as important clues. Li showed that provenance goes hand in hand with regional characteristics of the writings, including calligraphic style, content, text style or format, distribution of various writing materials and technical method of inscription. The characterization obtained this way would reveal a regional identity in cases where the provenance could not be known with certainty otherwise. Li showed that generalized regional characteristics also provide a way to combine writings of different states and regions together solely on the basis of common features in their script. He thus identifies, for example, the writings from the Eastern Zhou state as the Jin branch. Li's five-region system was confirmed through the accumulation of later discoveries and has now become the standard (Tang Yuhui 1986: 46, Huang Xiquan 1990: 99).

A culturally and historically inclined classification of regional writings would naturally translate itself into a palaeographical classification. Regionalism in the script itself marked by distinctive graphic forms and functions, and calligraphic styles, arises from geographical and culture-historical divisions. Tang Yuhui's 1986 article "Lüe lun Zhanguo wenzi xingti yanjiu zhong de jige wenti 略論戰國文字形體研究中的幾個問題" is a comprehensive study that transforms

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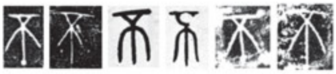
Li's classification of regional writings into one of regional scripts. The *Zhanguo Wenzi Tonglun* 戰國文字通論 (2003) by the late He Linyi expands the scope of areas and corpus of materials included in the five- region script system still further, and incorporates additional new discoveries. He identifies the following regions:

Qi: The Qi branch includes the scripts of the states of Lu 魯, Zhu 邾, Ni 倪, Ren 任, Teng 滕, Xue 薛, Lü 莒, Qi 杞, Ji 紀 and Zhu 祝 as well as Qi 齊, generally referred to collectively as the "Eastern script" (p. 86).
Yan: The script of the state of Yan 燕 comprises its own class (p. 101).
Jin: The Jin script includes the scripts of the three states split from the former Jin 晉, i.e., Han 韓, Wei 魏 and Zhao 趙 as well as those of the states of Zhongshan 中山, Zhou 周, Zheng 鄭 and Wei 衛 (p. 115).
Chu: The Chu script includes scripts of various states in the Chu cultural sphere, such as Chu 楚, Wu 吳, Yue 越, Xu 徐 and Cai 蔡 and relatively small states around the Han and Huai rivers such as Zeng 曾 (p. 148).
Qin: This group consists of the script of the Qin 秦 state (p. 179).

Scholars studying W.S. palaeography have described their impressions on regional calligraphic styles in various ways. He Linyi (2003: 200), for example says that the Qi script is "solid and heavy", Yan "fine and neat", Jin "forceful and sharp", Chu "flamboyant and flowery", Qin "strong and firm". It is worth noting that there is a general agreement on Chu and Qin styles in characterizing them more or less as "flowery" and "austere" respectively.

The impression of "floweriness" of the Chu style would in part come from its extensive use of decorative strokes. For instance the orthographically non-contrastive short horizontal lines drawn parallel to a top horizontal stroke of a character, though generally known in the W.S. writings, tend to appear more frequently in the Chu script than in the others. The Chu calligraphy style is relatively "liberal" in the sense that the body of a character is not always constrained by an imaginary square; it is often allowed to stretch, more so vertically than horizontally. The "austerity" of the Qin script has to do with its paucity of decorative strokes together with a relative invariability in the compositional structure. Qin calligraphic style would seem to be noticeably more square-fitted than Chu, but this feature is not as peculiar to Qin as the structural rigidity is. Here are some examples of recurring characters in nine Qin bronze inscriptions from five bodies of data (MWX inscription no. 919-925):

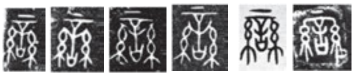
天

不 

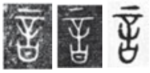
福

祀

宗

䜌 

燮

言 

We do not find the two characters 天 and 不 written in the Qin bronzes throughout the S.A. and W.S. periods with the horizontal decorative strokes familiar from their Chu forms. On the other hand the graphs 示 and 言 are always written with the short top horizontal line. This is true also of the Qin seal inscriptions and the early Qin clerical script seen in the Shuihudi manuscripts. A decorated form by definition has to have an "undecorated" counterpart within the system. In this sense the horizontal line in question, although the same graphic form as its Chu equivalent, cannot be termed "decorative" in the Qin script. For the latter, the addition of the horizontal line is a diachronic development from the original Western Zhou forms, which once evolved, would then remain fixed.

4.2 The Common Warring States character forms

When we call a character form a regional variant we must assume a contrast between the given regional form with its equivalents in the scripts of other regions. A feature of a W.S. regional script must be defined in synchronically contrastive terms with the common W.S. script. I propose the Common W.S. Form (CF) as a conceptual device, which is defined as:

A Warring States character form that descends from the common Western Zhou system and that is normally expected to be found across the regions, i.e., that is not peculiar to any one particular regional script.

The peculiarity in a given regional form can be defined in terms of its divergence from the CF. The CF is *defined* by the archetype of standard forms of all the five regional scripts in the five-region system and is *represented* by any one of the five regional types that preserves the salient features of the CF. When the complete data are not available, as is often the case, the CF can be *reconstructed* by either one of the following two ways:

(i) If and only if two W.S. forms from two different regional scripts of the five-region system are *derivable* from the common W. Zhou form and agree with each other, the two are of the CF type and either of the two is a token of the CF. For example, the Jin form 金 (郘公華鐘) and the Qi form (陳侯午錞) agree with each other and are derived from the W. Zhou form (史頌簋) by the addition of one stroke right upper side of the four compartments under the triangle-shaped top. The token (鄂君啟舟節) from the Chu script is a *variant* to the CF type where the horizontal center line is turned into a heavy dot.

(ii) If and only if a W.S. form is identical with the common W. Zhou form, then that W.S. form is assumed to represent the CF type. E.g., the graph 亡 (SHZY) represents the CF type because it is identical with the common W. Zhou type represented by (天亡簋) and (克鼎). The token from the Jin script, (中山王鼎) diverges from the CF by having an additional component 辶, but it alternates with the CF type (中山王鼎) in the same inscription.

It is important to note that the CF can take different shapes depending on which feature, e.g., compositional structure, decoration status or calligraphic style, etc. is at issue. The form 余 (SHZY) is a variant to the CF when compared to the W. Zhou (盂鼎), which develops into S.A. Qin 秦公簋 and W.S. Jin (中山王壺) by the addition of two symmetrical slanting strokes. If the presence or absence of a decorative stroke is at issue for the CF, the SHZY token is a peculiar regional form that deviates from the CF in having a leftward slanting stroke on the tip of the vertical center stroke.

4.3 Chu regional character forms

Since Tang Yuhui (1986: 46-54) in her pioneering work on palaeographical classification of the Five-region system pointed out several peculiar character forms in Chu writings, Huang Xiquan (1990: 99-108) and He Linyi (2003: 172-73) have each provided a longer list of Chu regional character forms. Li Shoukui (2003) and Teng Rensheng (2008) in their dictionaries of Chu manuscript characters have noted on forms that they regard as “Chu character” (Chuwen 楚文), which is in a narrower sense than that same expression in their book titles, *Chu Wenzi bian* “Dictionary of Chu [manuscript] characters”

A palaeographic designation of a manuscript character as “Chu character” (interchangeably referred to as Chuwen 楚文/ Chuzi 楚字/ Chuwenzi 楚文字) is largely intuitive and impressionistic: it refers to a form that impresses one as characteristic of the Chu writings in relation to its corresponding Qin Seal or Eastern Zhou bronze forms from various regions. Huang Xiquan’s Chu xi wenzi de teshu zixing 楚系文字的特殊字形, “Chu script’s distinctive character forms” imply both (a) ‘character forms peculiar to the Chu regional script’, (b)‘peculiar variants found in the Chu script’.

In this section, I will analyze the forms and structures of some of those “Chu characters” using the proposed Common W.S. Form as a means of synchronic and historical comparisons. At the outset it is affirmed that those forms may indeed be quite characteristic of the regional script on the basis of word-by-word comparisons, which in some cases may even turn out to be unique to the Chu region; we can call them “Chu characters” in that sense. What is more significant is, as I will demonstrate, that the ways in which they are distinguished from their counterparts in the Common W.S. Form in most cases follow certain principles of variation which are well known from earlier historical periods as well as from across regions.

The differences between a Chu character and its CF fall into five categories: (i) augmentation of a signific on the Chu regional form, (ii) alternation of synonymous significs between the Chu and CF forms, (iii) presence of decorative strokes in the Chu form, (iv) graphic simplification in the Chu form (v) differing physical shapes of the same shared components. For the cases of (i) through (iv), because the variations follow such principles of graphic variation (Chapter Three), the Chu form-like variants may recur in any regional script. Interestingly enough, such ‘predictable’ forms often co-exist with variants of the CF-type within the Chu regional script itself. In this sense, those are not genuine Chu characters. Hence, true regional features of the Chu script should be sought mainly in

the category (v), which is less likely to be repeated inter-regionally than the others. We will come back to this point later.

The following subsections organize twenty seven examples by the above categories (i)-(v). The discussion of each example is structured in the following way. First a form that has been pointed out in the literature as "Chu character" is presented, and it is referred to as such in our discussion, meaning that (a) the form at issue is found in Chu writings and (b) it possess certain features which impress a palaeographer as characteristic of the regional script. Likewise, "the Chu script" here refers to the script in writings from Chu, precisely in Tang Yuhui and He Linyi's sense. The same principle goes for the terms "Qin script"/ "Qin form" etc. After a reference Chu form is given, its regional features, identified as belonging to one of the five categories, are explained by comparison with CF. Finally, how the Chu form is distributed in SHZY and Chu manuscripts in general is discussed. What these observations mean for the identity of the Chu script as a regional variant of the W.S. script is recapitulated in Sections 4.4 and 4.5.

Note: Of the twenty-seven references of "Chu characters", the following 14 characters are from Huang Xiquan's (1990) list: 得 (example no. 3), 中 (no.5), 黄 (no.10), 内 (no.11) , 未 (no.12) , 大 (no.14), 至 (no.15), 言 (no.16), 永 (no.17), 爲 (no.18), 在 (no.20), 金 (no.21), 心 (no.25) and 動 (no.25). The remainder is those generally referred to as Chu forms in the literature.

4.3.1 Regional variation in componential structure

(1) 歲 *suì* 'year' [[illegible]] (str.52)

In the Chu script the character for *suì* 歲 'year' is always written as [illegible]. The W. Zhou form has the components *yuè* ***Gʷat** 戉 (師克盨) 'axe' and *bù* 步 'step, move'. In the Chu form the bottom part of the original 步 is replaced by *yuè* ***ŋʷat** 月 'moon'. The CF preserves the original W. Zhou structure.

W. Zhou (毛公鼎) (曶鼎)   CF Qi (國差罎) Qin (Qin Seal)

The graph 戉 together with the MC initial *s*(*w*)- of *suì* (< *sjwejH*) suggests a cluster of the ***s-[G/Q]ʷ-** type, which lost the uvular initial after the prefix ***s-**. Mei Tsu-lin (1979) has shown that this word is etymologically related to *yuè* ***Gʷat** 越 'surpass'. Mei provides in addition to the graphic evidence just mentioned, the Tibetan words *grod* 'run, go'/ *bgrod* 'surpass' and *skyod-pa* 'go, pass, passing of

time' as cognates to the Chinese *yuè* 'surpass' and *suì* 'year' respectively. We can thus reconstruct ***sGʷat-s** > *sjwejH* > *suì*.

The use of 月 may have to do with simplification and the subsequent obscuring of the original phonophoric 戉. In the form (為甫人盨) which appears in an early S.A. bronze inscription, the left side wall part in 戉 is left out. The 月 co-occurs with this simplified form of 戉 compensating for the obscured phonophoric. The meaning 'moon, month' of the *yuè* 月 would have also made the graph a good signific for *suì* 'year'. The Wangshan Chu manuscripts have a rare variant form 戓 in which this 月 is replaced by *rì* 日 'sun, day' (CWZ: 89). These two are synonymous significs having the same functional value as 'celestial body, time period'; their interchange is also found for e.g, in the character for *qī* 期 'appointed time, period' in bronze inscriptions, and for *jiān* 閒 ~ 間 '(time, space) between' in the received orthography.

(2) 巷 *xiàng* 'alley' [衖] (str.32)

Pu Maozuo (2003: 180) notes this character in SHZY as a typical Chu bamboo script form of 巷 for *xiàng* ***ggroŋ-s** 'alley'. The immediate predecessor of the modern form is found in the Shuihudi Qin clerical script written as . The Chu form is comparable with the Qin Seal form [䢽] . The latter has 邑 'town' duplicated in mirror images. The Chu form has the component (行) 'walk, row' instead, which is likewise composed of two 彳 'street' elements in mirror images. The graph 止 'go' typically co-occurs with 彳 as it does in this Chu form. The 彳 'street' and 邑 'town' are synonymous significs.

The Qin form has the phonophoric 共 (Cf. *gòng* ***goŋ-s** 共 'share'). The identity of the corresponding component in the Chu form is problematic. It is transcribed as 芇 by Pu Maozuo and Li Shoukui (2003) because its graphic resemblance to the 芇 part of the character 席 for *xí* (< MC *zjek* <) ***s-dak** 'mat'. But the latter is not at all phonetically compatible with *xiàng* ***ggroŋ-s** 'alley'. In fact 芇 does not appear anywhere else than in the character for *xí* 'mat' in the received orthography, so there is no independent evidence of its phonetic function.

Meanwhile, the word *xí* in Chu manuscripts is regularly written as 箬 (Cheng 34) {S 竹 'bamboo' + Ph 石} with the phonophoric *shí* < MC *dzyek* < ***dak** 石 'stone'. Xu Shen records a *guwen* variant form [㢝] to which he notes 从石省聲 (7b/361) "(the *guwen*) contains an abbreviated form of 石 as the phonophoric". The form 箘, which is identical with *guwen* but having an added signific 竹, is attested in the Zenghou Yi bamboo texts (CWZ: 478). It seems that 石 is the

original phonophoric for this word and it was preserved in non-Qin regional scripts including Chu.

I think that the Qin variant which appears to have the structure {S 广 'hall' + Ph 帯} is in fact a re-analysis of {S 巾 'fabric, cloth' + Ph 石 ***Tak** }. These two components were arranged vertically 石 above 巾, and then the lower part of 石, (口-like element combined with a horizontal line above it), and 巾 became compressed to appear as 帯. The remaining part of 石 'stone', i.e., 厂 subsequently became confused with 广 'hall' which is graphically similar with the latter. The significs 巾 'fabric and 竹 'bamboo' alternating between the Qin and Chu variants have the same functional value, viz., 'material' for 'mat'.

But the graph in "巷" seems completely unrelated to the above 帯. Rather, it is most likely a distorted form of 共. Note how the latter is normally written in Chu manuscripts: (Zi 25) and (Liu 26). Extension of the bottom horizontal stroke of 廿 together with linking of the 'two hands' would result in a form like 芇 ; a vertical stroke would have then been added on analogy with the common graph 巾 'fabric'. This vertical line also has a balancing effect, without which the form 芇 would have had an odd empty space. The word *xiàng* 巷 is written in Chu manuscripts variably, in Li Shoukui's transcription, as 𨚬 (Zenghou Yi manuscripts), 衖 (Baoshan manuscripts) and 迣 (Guodian manuscripts) (CWZ: 415). The peculiar Chu feature on this character should be stated as "having the component 共 executed to look like the graph 帯, not as "having the 帯 *component*".

(3) 得 *dé* 'obtain' [㝵] (str.21)

The peculiar form [𢔶] (𠘑兒鐘) occurs in a bronze inscription from the late S.A. period Xu 徐 state. The W. Zhou form normally contains 彳 'road', 貝 'cowrie shell' and 又 '(right-) hand'. Variant forms in which 彳 is omitted and 又 is replaced by its synonymous signific 手 'hand' are also found in the W. Zhou script.

W. Zhou (師旂鼎) (師朢鼎)   CF Qi (陳章壺) Jin (中山王鼎)

{彳 + 貝 + 又} {貝 + 手}   {貝 (> 目) + 又}

The form commonly found in the W.S. script across regions typically lacks 彳 and contains 又. The original 貝 component is simplified to appear as 目 'eye' in the latter. Xu Shen records the Qin Seal form in the structure 得 {彳 + 見 + 寸} and a *guwen* variant 㝵 noting that 古文省彳 (2b/77) "the *guwen* omits 彳". Note that 寸 'inch' derives from 又 'hand' by adding a dot. This graphic and semantic relation

is analogous with that between 刃 'blade' and 刀 'knife' and between 見 'see' and 目 'eye'. We can deduce that the confusion of 貝 with 目 'eye' eventually led to the introduction of 見 'see' in the W.S. forms recorded in the *Shouwen*, because the last two are synonymous significs. Rong Geng (1985: 113) says that the 見 part in the Seal form is a copyist's error. It seems that the "error", i.e., the use of the historically incorrect form 見, does not come from Xu Shen or later copyists, but from the W.S. script itself.

The peculiar Chu form 復 preserves the 彳 component from the W. Zhou form while it has the 目-like component shared by the CF. Its special feature is the use of 攴 (攵) 'treat' in place of its synonymous signific 又. This form explains the curious shape of the SHZY character which appears repeatedly in the manuscript. The latter is quite strange compared to the CF . It has a short stroke sticking out of the lower right corner of the 目. We can now see that it has the structure of 目 +攴 (攵), i.e., the form 復 minus 彳: the vertical stroke in 卜 and the upper section of the curve cut across by the rightward slanting center line in (又) are merged to appear like . In the Guodian manuscripts both the peculiar Chu variant and the CF are commonly used. Note these two examples for each:

(Ziyi 18) (Yu-3, 47) *vs.* (LZ-A, 28) and (Yu-1, 65) CWZ: 120-21

(4) 上 *shàng* 'up' (str.8)

In the development of the character 上 from the W. Zhou to CF a vertical stroke is added to increase graphic structure. The Chu variant [辻] 辻 (鄂君啟舟節) has the signific 辶 (彳+止) 'motion' added to CF.

W. Zhou (啟卣) CF Jin 上 (中山王壺) Qin (Shuihudi)

The token 辻 is found in the sentence 辻庚木關庚郢 (MWX, 2.659) "go up the river, passing by Muguan and Ying" where *shàng* is used as a verb meaning 'go up'. Li Shoukui notes that the form found in the Baoshan Chu manuscripts also tends to be used for the verb (CWZ: 7). It is clear that the use of the signific 辶 or its SS 止 'step' is made with consciousness of the different shades of meanings and the simultaneous changes in grammatical function of the word. But this graphic modification did not become a systematic orthographic feature in the Chu script. Regardless of its grammatical function as noun, adjective modifier or

verb, it is usually the CF (Tang 20) and its variant (Zun 36) with a decorative stroke underneath the horizontal stroke that is most commonly seen in Chu manuscripts. The regional form ⿺辶上 is only an occasional variant of the CF within the Chu script.

(5) 中 *zhōng* 'center' [中] (str.39) [⿱宀中] (str.7)

Huang lists a form precisely like found in the Tianxingguan 天星觀 manuscripts as a peculiar Chu regional variant of 中. The W. Zhou form appears in two variants, one with 'fringes' above and below the center circle and one without them. The CF also exists in two forms: one the same as the simple W. Zhou variant and one deriving from the fringed variant in which the original flaring fringes are executed as straight lines with the number of fringe-strokes sometimes reduced.

W. Zhou (頌簋) (衛鼎) CF Qi (子禾子釜) Jin (中山王鼎) (中山王壺)

The peculiar Chu form develops out of the fringed CF variant. The top fringe is modified to a horizontal line that makes a T- shape together with the vertical center stroke. This new top horizontal line in turn provides the condition for the optional addition of the usual short decorative stroke on top. Note also the variants found in Guodian manuscripts: (LZ-A, 22) and (LZ-A, 24). The signific 宀 'space' added to the latter yields the peculiar Chu form . In this variant the single lower fringe-stroke and the vertical stroke tend to be linked making an L-shape. The peculiar form like 乇 or 乇, with or without the 宀 is used as a variant side by side with the CF types within the Chu script. Note also the forms (鄂君啟車節), (Tang 16) and (Yu-1, 21).

The 宀 'space' component seems to be a natural choice for such a word as *zhōng* 'center'. The addition of this extra signific is unrelated to the various grammatical functions of *zhong* as adverb, noun and adjective. The form is used just once in SHZY, appearing in the line *zhong ji wu jiu* ⿱宀中 吉 亡 咎 "Auspicious in the middle (of the course of the event which is divined about); there is no fault (Hex.7 *Shi*)". The same phrase "*zhong ji* " is written in the simple form in the phrase *zhong ji zhong xiong* 中 吉 冬 凶 "Auspicious in the middle but inauspicious in the end (Hex.6 *Song*)". There is a nominal use of the word: *ri zhong jian dou* 日 中 見 斗 "One sees Big Dipper in the middle of the day" (Hex.55 *Feng*), where 中 appears in the simple form. It seems that the addition of the 宀 'space'

does not have any semantic or grammatical significance but simply is a manifestation of an elaborate writing style. In the Guodian "Wuxing 五行", which is one of the most beautifully written manuscripts in the corpus, the word is consistently written as 中. Its grammatical function here is adjectival modifier.

> 君子亡中心之優則亡中心之智，亡中心之智則亡中心之悅 (strip no.5, p.149)
> If a worthy man lacks the concern for unbiased mind, he will lack the wisdom of unbiased mind. If he lacks the wisdom of unbiased mind then he will lack the feeling of content from unbiased mind.

(6) 命 *mìng* 'command' (str.8) [命] (str.5)

The characters for *mìng* *__mreŋ-s__ 命 (競卣) 'to command, mandate' and *lìng* *__reŋ-s__ 令 (井侯簋) 'to command, official title ('commander')' are occasionally used interchangeably in the early script. The Chu variants [敂] (鄂君啟舟節) and [殸] (鄂君啟車節) alternate in the same sentence in two separate and partially duplicated inscriptions, where they stand for the word *lìng* 令 used in official titles:

> 大工尹脽 (x)以王命命集尹悡楮 (x) 裁 尹[100]逆裁 敂/殸 (緘令) 阢 (x)
> 為鄂君啓之府賡鑄金節 (MWX 2. 659)
> The Grand Production Supervisor' x (personal name)
> upon King's command ordered the *Ji-yin* (official title) x and *Jian-yin* Ni
> and *Jian-ling* x on behalf of Lord Qi of the E state to cast these gold tallies.

The form for *lìng* contrasts with that for *mìng*, written in this inscription by having either one of the synonymous significs 攴 'treat' and 殳 'spear'. It is significant that while the forms 敂 and 殸 themselves appear only in Chu, the alternation of the SS {攴, 殳} is a common feature of the early Chinese script. This distinction of 命 versus 敂/ 殸 does not seem to be generally maintained in the Chu script. The augmented forms do not appear in the Guodian manuscripts (See CWZ: 66).

The structure of the W. Zhou form of 命 is maintained in the CF but the component which seems to depict a kneeling man no longer has the iconic quality in the latter.

100 Rong Geng (1985: 61) identifies 裁敂 ~ 裁殸 as *jiān lìng* 緘令.

W. Zhou (競卣) CF Jin (中山王鼎) Qin (秦公簋: late S.A. period)

The Chu script has two common variants of the CF [命] (Yu-3, 68): [命] (Yu-1, 4) with a double horizontal stroke added beneath the character, and [命] (Zi 37) in which the added strokes displace the original 口 (CWZ: 66). The CF and the last form appear in SHZY.

(7) 家 *jiā* ‘estate’ [冢] (str.22)

The character 家 is always written as 冢 with the component 爫 added on top of 宀 in Chu writings.

W. Zhou (𤸫簋) CF Jin (中山王鼎) Qin (Qin Seal)

The form 冢 is found in a Chu bronze bell inscription from the late W. Zhou period used for a person’s name.

楚公冢自作寶大林鐘 late W. Zhou, JC 43

Lord of Chu Jia made for himself this grand treasure *lin* (musical note) bell.

The form 冢 seems to have been first created in Chu, perhaps specifically to write this lord of Chu’s name. It is found in no other regions than Chu and it is used exclusively for the word *jiā* in W.S. Chu writings (CWZ: 448-449).

(8) 受 *shòu* ‘receive’ [受] (str.45)

The form (者沪鍾) appears in an early W.S. Chu bronze bell inscription. With the calligraphic style (which features curved tips and thickened parts of strokes, and an overall elongated shape) set aside, the peculiarity of this character form is found in its componential structure. The W. Zhou form has the phonophoric *zhōu* **tu** 舟 ‘boat’ (舟簋) positioned between 爪 (爫) ‘claw, grasp’ and 又 ‘(right-) hand’. The three graphs are typically arrayed diagonally lining up from upper left to lower right, and 舟 is accordingly turned slightly or completely sideways.

W. Zhou (何尊) (免簋) W.S. Jin (elaborate style) (中山王壺)

The CF seems to have existed in two forms:

CF type (a) [受] Chu (者沪鍾) Qin (Qin Seal)

CF type (b) [叟] Chu (Yu-3, 5) Qin (Shuihudi)

In the Chu form the 舟 is replaced by *nèi* 内 (中山王壺) 'inside'. This new component, which seems neither semantically nor phonetically relevant to the word *shòu* ***du?** 'receive', gives a stable appearance to the shape of the character: 又 is enclosed by it and 爫 sits on top of it. The upper-and-lower or outer-and-inner array of components is the norm in the style of the W.S. script. The elegant plastic shape of the early character was going to change into a solid, more or less square fitted shape in one way or another, and in this case a completely unexpected graph is used for its physical structure to displace the original phonetic component. The Qin Seal form [受] , which has 冂(冖), is compatible with the Chu form. The Zhongshan bronze form above, which is identical with the W. Zhou form seems to be just a reproduction of the early form in an elaborate calligraphic style rather than actually representing the contemporaneous regional form.

Interestingly, the form dominant in Chu bamboo writings is still different from the common Chu-Qin form. It is this form [叟] (Yu-3, 5), composed of two 爫 in horizontal mirror images with a vertical line between them and the 又 underneath. This variant is another outcome of the structural adjustment of the early form of for the overall balanced appearance of the character: here the 爫 is duplicated for symmetry while the 舟 element is reduced to a single line. SHZY has the form which appears to be a transitional form from to . It has duplicated 爫 facing each other and turned slightly to the right, and two parallel strokes between them, with the right side one cutting across the lines of the right side 爫. It looks like a fused form of the early with the added duplicate of 爫. The Shuihudi Qin clerical script has the form , similar to the 叟 -like Chu form except that it is simpler than the latter.

(9) 失 *shī* 'lose' [遊] (str.10) (str.16)

In Chu manuscripts the peculiar character form 遊, with no structural variation, regularly occurs in textual positions corresponding to *shī* 失 'lose' in received versions or in the context where this word seems fit. The modern graph 失 comes from the Qin script form written in the seal script and appearing in the Shuihudi manuscripts as .[101] This perfect textual correspondence leads most palaeographers to believe that this Chu character is a regional variant that writes the same word as 失.

The problem is that we do not find in the components of the Chu form a semantic or phonetic function that can relate the character with the word *shī* ***hlij**. The 遊 (?) has three graphic components: one of them can be unambiguously identified as 辶; one looks very much like the "㫃" part of *lǚ* 旅 'expedition'.[102] This latter is typically written (召卣) and sometimes with an added signific 辶 as (伯其父簠) in W. Zhou inscriptions. The latter variant is found in the Chu script written (str.53). The last component resembles *yáng* *[**g**]**aŋ** 羊 (str.38) 'sheep' (The 羊 has two horizontal strokes in the early script; the Qin Seal form is the same). This graph might have been intended as a phonophoric, but if it is *yáng*, it is not compatible with the OC pronunciation of *shī*.

No occurrence of the word *shī* has been found in Western or Eastern Zhou bronze inscriptions. Thus we have no historical explanation for either the Chu or the Qin form. He Linyi (1998 [2004]: 1090) suggests that the Qin form is received from the W. Zhou form (JC 5149). But we do not know what word this graph (notated as X below) stands for.

臣辰 X 父乙 early W. Zhou, JC 5149
Officer Chen x (verb) Father Yi.

101 Xu Shen lists the seal form under the classifier 手 (Qin Seal), but this is nothing but a wild guess.
102 This transcription 㫃 is based on analogy with the modern character 旅 which evolved from the early form . The component in the early form is a single graph, probably a pictograph depicting the banner carried by a caravan. It does not actually have the *fāng* 方 'region, direction,' whose early form is (保卣).

臣辰 X 冊 early W. Zhou, JC 9526
Officer Chen's records on x.

...用作父癸寶遵彝. 臣冊 X early W. Zhou, JC 5999
..use (the grant) to make for Father Gui this treasure sacrificial Yi. Officer made a record on x.

It is not a sound practice to identify two graphs as identical characters standing for the same word on the basis of graphic resemblance only. It is clear that X in this context cannot mean 'lose'; neither do we have evidence to relate it with the pronunciation *shī* ***hlij**. A case in which regional variants for the same word are so inexplicably different in structure such as this is rarely seen. We have to await future excavations for a clue to this bizarre variation 遊 ~ 失.

4.3.2 Regional variation in use of decorative strokes

(10) 黃 *huáng* 'yellow' (str.30) (str.37)

In the Chu form (曾侯乙鐘) the 'belly' and 廿 part are attached to each other while the symmetrical slanting stokes between them which are seen in both the W. Zhou and Qin forms below are deleted.

W. Zhou (剌鼎) CF Qin (Qin Seal) (Shuihudi)

While the top part of the graph is simplified, the bottom part is loaded with decorative strokes: one horizontal line is added underneath the belly and slanting strokes are added on the 人-shaped part. The writing of the 人 shaped part as is characteristic of the Chu script. The SHZY form is without the horizontal decorative stroke. It has the 廿 part simplified as . The form has the vertical stroke in the belly deleted.

(11) 內 *nèi* 'inside' (str.9)

Huang gives the form (鄂君啟舟節) and a form similar to (Xing 27) as Chu regional forms. Compare W. Zhou and Guodian Chu forms.

W. Zhou (利鼎) CF Chu (Wu 3) (Zi 39) (Yu-1, 23) CWZ: 321-22

The 宀 component has elaborate and simple variants. The vertical line in 入 (頌鼎) 'enter' has an added horizontal stroke which can be executed either as a dot or a straight line. The added horizontal stroke also appears in Qi and Jin forms. It is therefore a feature of the CF.

CF Qi (子禾子釜) varying with (陳章壺)

CF Jin (中山王壺) (中山王兆域圖)

CF Qin (Qin Seal) (Shuihudi)

The Qin form seems to derive from the CF or . The 入 component written in the shape of 大 is raised high so that the added horizontal stroke merges with the horizontal stroke of 宀.

(12) 未 *wèi* 'not yet' (str.58)

W. Zhou (利簋) (守簋) CF Qin (Qin Seal) Jin (中山王鼎)

In the development from the W. Zhou to CF, the lower curve of becomes notably larger than the upper curve. The Chu type (Zhong 2) derives from the CF by adding a decorative horizontal stroke across the vertical center stroke. The CF type such as the form (Yu-2, 45) appears occasionally in the Chu script.

(13) 竹 *zhú* 'bamboo'

The graph 竹 (Shuihudi) 'bamboo' is predominantly written as with added horizontal lines in the Chu script. SHZY has two characters with 竹, both written in the Chu style.

[笙] (str.22) [箬] (str.9)

4.3.3 Regional variation in simplified forms

(14) 大 *dà* ‘large’ (str.55) (str.25)

The form (鑄客鼎) is found in a late W.S. Chu bronze inscription. The vertical tip sticking out of the lower part of the graph in the W. Zhou-CF form is left out in this form.

W. Zhou (頌鼎) CF Jin (中山王兆域圖) Qin (Shuihudi)

The deletion or interruption of a vertical center stroke suggests a casual writing style. The “zhuke ding 鑄客鼎” where the token comes from is among a series of bronze vessels cast by a certain “visiting caster”, who seems to be a professional bronze caster commissioned to make complete sets of food vessels for the queen and consorts and court chefs on a single visit. Both the calligraphy and phraseology are very casual in these inscriptions. All the characters are written in the simplest possible way. The verb *wèi* 為 is used for ‘make’ instead of the old standard *zuò* 作 and the vessel itself is referred to by the pronoun *zhī* 之 “it” instead of the specific word for the type of vessel.

late W.S., MWX 2.670

“Zhuke ding 鑄客鼎”

盄 (鑄) 客 為 六 后 脰 (廚) 官 為 之

Visiting caster for the Six consorts’ chef made it (i.e., the *ding*).

late W.S., MWX 2.672

“Zhuke dou 鑄客豆”

盄 客 為 王 后 六 室 為 之

Visiting caster for the queen and the Six chambers made it (i.e., the *dou*).

The character 大 in Chu manuscripts is hardly ever written so much like 大 but most commonly written like 大 (Wu 35). Compared to the latter the 大 type in which the two 人- like parts are completely separated is a 'very casual' form. Both of these appear in SHZY.

(15) 至 *zhì* 'arrive' (str.2) (str.44) in 室 *shì* 'chamber'

The Chu form (鑄客豆) has the 至 component simplified by deleting the vertical stroke and also by making the bottom of the part merge with that of the U shaped part. In Chu manuscripts 室 is predominantly written in this abbreviated form sometimes with a decorative horizontal stroke underneath such as (LZ-A, 38) (See CWZ: 450).

W. Zhou (揚簋) CF Qin (Qin Seal) (Shuihudi)

It is significant that whereas the 至 is abbreviated as a rule when combined with 宀, the full form is often maintained when the graph stands alone.

W. Zhou (兮甲盤) CF Jin (中山王壺) Qi (S.A. period) (邾公牼鐘)

Note (Yu3-65) and (Yu3-26) alternating with (Zhong-4) and (Tang 26) in the Guodian manuscripts. The CF 至 has one added stroke underneath the U, executed as a dot or a horizontal line. The Chu regional form shares this feature. Chu is not alone in having a simplified form of 至, note the form (中山王兆域圖) from the Zhongshan corpus.

(16) 言 *yán* 'speak' in 訟 (str.5)

The graph 言 is regularly written in Chu manuscripts like (Liu 45). The CF is derived from the W. Zhou form by adding a short horizontal stroke on the top. The Chu form shares this feature with the CF and differs from the latter in missing the vertical stroke.

W. Zhou (伯矩鼎) CF Jin (中山王壺)Qin (Qin Seal)

The original U-shaped stroke is inclined to turn into a straight horizontal stroke in fast writing as seen in the Guodian manuscript forms such as (Zi 17) and (Lu 4). The loss of the old vertical stroke in this character seems to have become common in the late W.S. script across regions. We find two variant forms in the Shuihudi Qin clerical script, and, the former like the CF and the latter like the Chu form.

(17) 羕 *yǒng* 'eternal' (str.47)

The CF for *yǒng* *G^{w}raŋʔ 永 'enduring' is derived from the W. Zhou (永盂) by adding the component *yáng* *[g]aŋ 'sheep' 羊 as a phonophoric.

W. Zhou (永盂)   CF Qi (陳逆簋)

In the Chu form (Xing 10) the vertical stroke of 羊 is lost and the graph is turned into the form i.e., three combined 人 (亻). The form used in SHZY is an intermediary form between the CF and Chu type.

(18) 為 *wèi* 'on behalf of' (str.1) (str.45)

Huang lists the form (鄂君啟舟節) as a Chu regional form. In the Guodian manuscripts, 為 is written in three types of forms (a), like the with a double horizontal stroke at the bottom, (b) without it, and (c) with a single horizontal stroke on top.

(a) (Qiong 8) (b) (LZ-A, 8) (c) (LZ-B, 15) CWZ: 170-173

The SHZY forms belong to the (a) type. By comparing with the form (曾侯乙鐘) from a Chu bell and the W. Zhou form (弘尊) we can see that the graph is a simplified variant in which the bottom half of the original graph is truncated. The optional double horizontal stroke serves as an abbreviation marker or balancing strokes which substitutes for the deleted portion. The full form does

not appear in Chu bamboo manuscripts discovered thus far, so it is evidently reserved for bronze inscriptions of the most prestigious kinds. The -type simplified forms are found in W.S. bronze inscriptions from other regions such as Qi and Jin.

	FULL	SIMPLIFIED	
Qi	(陳逆簋)	(陳喜壺)	
Chu	(曾侯乙鐘)	(鄂君啟舟節)	
Jin	(中山王鼎)	(中山王兆域圖)	(東周左師壺)

The graphic similarity of these simplified forms suggests that they could not have developed independently. As will be shown below, the difference between a Chu form such as and a Jin form such as is no more significant than that between forms produced by two different individuals within a region. The appearance of the -type in bronze vessel inscriptions in Qi and Jin suggests that the full form was not used much for everyday writings in these regions also. The Qin script is exceptional. The norm in the Shuihudi Qin clerical script is (Cf. Qin Seal). Its abbreviated variant is used only occasionally. The modern form 爲 descends from the Qin form which maintained the full form.

A character such as 爲, which stands for a frequently used function word and which has variable graphic details, is useful for distinguishing different hands.[103]

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103 Richter (2006) notes that different individual scribal hands should not be confused with different script styles because a single scribal hand can command different styles; furthermore, an individual person can write in distinct hands over different time periods. An even further complicating factor is, Richter goes on to explain, the presence of scribal groups, members within each of which share particular writing conventions and habits and thus can be mistaken as an individual hand. Nevertheless, researchers seem to agree on observing frequently occurring characters which are also often structurally simple in order to distinguish alternating scribal hands within a manuscript corpus. As Richter puts it, "Frequent and simple forms that are primarily determined by habitual automatic movement of the hand are stronger criteria than complex forms, the execution of which is to a greater degree subject to conscious choice (*ibid.*, p.10) ", and so "Non-structural features such as the quality of individual strokes are stronger criteria than

The top slanting stroke of 爲 in the Guodian “Yu cong yi 語從一” and “Yu cong san 語叢三” is noticeably stretched. The two manuscripts were probably written by a single hand.

(Yu-1, 53) (Yu-1, 57) (Yu-1, 93) (Yu-3, 8) (Yu-3, 67)

Likewise the Guodian “Laozi B” and “Laozi C” seem to be written by the same hand but “Laozi A” by a different hand.

“Laozi B, C”: (LZ-B, 8) (LZ-B, 10) (LZ-B, 4) (LZ-C, 7) (LZ-C, 11)

“Laozi A”: (LZ-A, 8) (LZ-A, 8) (LZ-A, 16)

(19) 則 *zé* ‘(if...) then’ [ ] (str.34)

The W. Zhou for 則 is composed of 鼎 ‘tripod’ and 刀 ‘knife’.

W. Zhou (何尊) (格伯簋) CF Jin (中山王壺) Chu (鄂君啟舟節)

In Chu manuscripts the feet of ‘tripod’ is often written like 灭 sometimes as 火 without the horizontal line. (We have seen the same 灭 shape used in the character *huáng* 黃 ‘yellow’ above.) The feet can be trimmed off, to then be substituted by the balancing double horizontal line.

(LZ-C, 6) (Yu-3, 33) (曾侯乙鐘) *vs.* (Wu 5) CWZ: 266-68

The component on the right side which corresponds to the W. Zhou 刀 ‘knife’ is ‘plough’ as in *lí* 黎 ‘to plough’. The shape of the component varies, being executed in from three to five strokes. See the variants of *lì* 秎 (利) ‘benefit’ in SHZY:

structural ones (*ibid.*, 17)”. Among the characters in the Guodian manuscripts which Richter chose to examine are 爲, 者, 之, 此, 與, 又 (有) and 也 (*ibid.*, 20-28).

(str.11) (str.1)

The graph 勿 in (則) can be left out.

(Xing 27) (Tang 21) (LZ-A, 35) (CWZ: 266-68)

The Guodian “Wuxing 五行” has three different variants within the manuscript:

(Wu 5), (Wu 13), (Wu 15)

SHZY has one occurrence of *zé* 則 written . This form has the CF shape of 鼎 combined with the Chu signific 勿 . The Qin form (Qin Seal) / (Shuihudi) has the W. Zhou-CF 鼎 ‘tripod’ simplified to appear as 貝 ‘cowrie shell’.

(20) zài ‘located’ 才 (> 在) (str.56)

Huang lists the form (曾侯乙鐘) on an early W.S. Chu bronze bell as a peculiar Chu form. This is an embellished variant of (曾侯乙鐘) found in the same inscription and it has a variant (曾姬無卹壺) without the short horizontal decorative stroke. The W. Zhou form appears in three types, two of which appear as regional variants in the W.S. script.

W. Zhou (a) (克鐘) (b) (豐尊) (c) (窒弔簋)

The (b) type appears in the Zhongshan bronze script as (中山王鼎). SHZY also has the (b) form. The hemisphere part can be executed as a straight line in fast writing.

[才] (str.7) [才] (str.56) [ ] (str.21) [ ] (str.56)

The Guodian manuscripts have four different simplified variants deriving from the (b) type:

(Yu-3, 19), (LZ-A, 4), (Yu-3, 15) (Liu 24)

The (c) type is found in the Shuihudi Qin script.

(Shuihudi) (Shuihudi) Compare Qin Seal .

The first one is like an intermediary of (b) and (c).

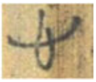
(21) 金 *jīn* 'metal' (str.1)

The number and position of the short strokes are flexible in the W. Zhou script. They become uniform in the CF as .

W. Zhou (利簋) (彔伯簋) (史頌簋)

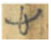
CF Jin (中山王壺) Qi (陳侯 因脊錞) Chu (酓肯簠)

The Chu form is a simplified variant of the CF. Both the CF and Chu form appear in SHZY: 欽 (str.25) *vs.* (str.27).

(22) 心 *xīn* 'heart'  (str.45)

The W. Zhou form of 心 has -shaped bottom, which evolved to - shape in CF.

W. Zhou (散盤) (克鼎) CF Jin (中山王壺) Qin (Qin Seal)

The Chu variant  coexists with the CF in the Chu script. The alternation is common even within a single text. For example:

(Zi 24) *vs.* (Zi 9) and (Wu 10) *vs.* (Wu 33) CWZ: 601-02

In the Guodian manuscripts we also find a form intermediary between the CF and Chu types such as (Xing 1). A Jin bronze has a similar form used in the character 志 (中山王壺). SHZY has in all cases:

[⿱冬心] , [⿱害心] , [⿱帝心] , [悳] , [愈] etc.

4.3.4 Regional character shapes

(23) 享 *xiǎng* ‘ritual sacrifice’ [亯] (str.17)

The character 亯 (享) is mostly commonly written like in Chu writings discovered so far. (CWZ: 328).

W. Zhou (缶鼎) CF Qi (邾公華鐘) and (十年陳侯午錞)

In the development from W. Zhou to CF, the bottom hemisphere comes to be filled with a horizontal stroke and the pillar-like part becomes attenuated. In the Chu form the bottom has become even larger and the pillar part is further reduced to a tiny empty upside down triangle. The Qin Seal form diverges from the Qi and Chu forms by having an added graphic component at the bottom, the identity of which is uncertain. It appears as 子 ‘child’ in the Qin clerical form (Shuihudi), and this eventually gave rise to the modern form 享.

(24) 福 *fú* ‘blessings’ (str.57)

The Changsha Chu silk manuscript has a form like (LZ-A, 38).

W. Zhou (士父鐘) CF Jin (中山王壺) Qin (Shuihudi)

Similar to the case of 亯 above, the ‘pillar’ above the 田 shaped part is reduced to a small enclosure of varying shapes in the CF. The Chu form differs from the latter in two respects. First the two components, 示 and 畐 are arranged vertically, 畐

on top of 示, instead of horizontally. In this array, the short top stroke in the 示 is regularly deleted and that of the 畐 is often augmented with a decorative stroke drawn above it horizontally. Second, the crossing lines in the 田 shaped part are changed into parallel lines. The first feature is maintained consistently in the Chu bamboo script (See CWZ: 10-11).

The CF type like the form (王子午鼎) is found in the Chu script only in bronze inscriptions from the S.A. period or earlier. For the second feature, variant forms with the traditional crossing lines are also common in the Chu script. See another example of CF's crossing lines executed either as crossed or horizontal lines: the character 胃 (吉日壬午劍) (normally used for *wèi* 謂 'refer') is written variably as (Lu 1) and (LZ-A, 28). SHZY has the CF .

(25) 童 *tóng* 'adolescence' in [僮]

Huang gives the form {S 辶 + Ph 童} found in the Chu silk manuscript standing for *dòng* 動 'move' as a Chu regional form. The use of the signific 辶 is well expected for a word meaning 'move'. The *Shuowen* records a *guwen* form 蓮 for *dòng* 'move' contrasting with the Qin form 動 with 力 'strength' (13b/700). This word in a W. Zhou inscription is written as (毛公鼎) {龺 + 東 + 土}. This graph has three parts: 龺, a graphic component that no longer survives and that looks like a combination of 辛 (申鼎) and 目 'eye' , 東 , the phonophoric (Cf. *dōng* ***ttoŋ** 東 'east') and 土. The graph 童 (童) is a compressed form of this early compound character in which 東 is deleted and the 土 is attached underneath 龺. The 土 part in the Chu script is subsequently augmented with the Chu style leftward-slanting decorative stroke. Note how the Chu form is different from the Qin Seal form.

tóng ***ddoŋ** 僮 'adolescence'

Chu *vs.* Qin Seal

The graph 童 as it appears in the Seal form is another compressed form in which the original 目 is removed and the 東, trimmed off of the tip, is attached underneath the 辛 –like graph. Qin and Chu forms are variants of the new single component character, viz., 童 made of a fusion of the early compound that has 龺 , 東 and 土 . This 童 carries on the phonetic functional value ***Toŋ** of the original phonophoric 東. The graphic fusion itself took place earlier as can be seen in the W. Zhou form 鐘 (虘鐘) for *zhōng* 'bell', but the 'uncompressed' form existed

side by side with the simple form. The loss of the complex variant and the subsequent reanalysis of the simple one as a single component character were complete by the W.S. period.

The Qin script form for *dòng* ***ddoŋʔ** 動 'move' has the Ph 重 (Cf. *zhòng* ***droŋʔ** 重 'heavy'), an apparent EP of the W. Zhou-Chu phonophoric 童. In fact 重 itself is a fused form of a compound character composed of S 人 'person' and Ph 東: note (井侯簋). The 土 part at the bottom of the Seal form 重 suggests an early variant of , which was augmented with the graph 土 (人 + 東 > 重). The alternation of 重 and 童 as EP already appears in the Western Zhou script in the character for *zhōng* ***toŋ** 鐘 'bell': note (兮仲鐘) {重 + 金} and (id.) {童 (+ 東) + 金}. The Zhongshan form (中山王鼎) for *tóng* ***ddoŋ** 'adolescence' with the S 立 'stand' and Ph 重 is another regional variant which shows SS {人, 立} and EP {童, 重}.

(26) 椉 (> 乘) *shèng* 'cart, carriage' [] (str.37)

The early character for *shèng* 乘 has three graphic elements, which appear as 大 (毛公鼎) 'large', 木 (格伯簋) 'tree' and one which is apparently an iconic representation of 'feet' and which evolved to the graph 舛 in clericization.

W. Zhou (公貿鼎) (格伯簋) (多友鼎) (師同鼎) JWB: 387

In the Qin Seal form the lower half of 大 is lost. The upper half on the other hand evolves to 亠 in the clerical form 椉; Xu Shen saw the same graph as 入 'enter' analyzing the Seal form as 入 'enter' + 桀 (Qin Seal) *jié* 'staff' (5b/237).

The character 椉 (乘) in the writings from the Chu region consistently appears in the form (鄂君啟車節) (CWZ: 338-89). The 大-like part lost the vertical center line, which is parallel with the actual *dà* 大 'large' as a single component character simplified as (鑄客鼎) in the Chu script; the 'feet' part is raised to cross the latter and the 木-like part is replaced by a different graph appearing as *jī* 几 '*ji*-table'. Xu Shen records a *guwen* variant , which we might transcribe as 椉 on analogy with 椉, differing from the Qin form, as Xu Shen saw it, by having 几 instead of 木: (古文椉从几 [5b/237] "the *guwen* contains 几"). Note how 几 is written in the character for *chǔ* 処 (處) 'reside' in SHZY.

[尻] (str.16) (str.25) (str.26)

The form 兖 (Yu-2, 26) found in the Guodian manuscripts has a 几 element with a closed bottom. The short horizontal line in the center in turns out to be the usual decorative stroke. The SHZY form (str.37) is augmented with the signific 車 'chariot'. The same structure is found in the Guodian manuscripts as (Yu-2, 26). The structure of the Chu character with regard to the use of 几 and 車 could possibly be repeated elsewhere, but the physical form of the character 兖 as , especially the merger of 大 and 廾 part, is most likely unique to the Chu script.

(27) 飲 *yǐn* 'drink' [酓] (str.50)

In Chu bronze inscriptions the character 酓 is used to write the name of the ruling clan of the Chu state known historically as "熊" (Cf. *xióng* ***Gʷəm** 熊 'bear'[104]).

Chu "酓"-clan: (酓章作曾侯乙鎛) (酓肯鼎) (酓肯簠) (酓忎盤) JWB: 1003

Apart from its usage for this proper noun, the character 酓 {S 酉 '*you*-vessel' + Ph 今 ***Kəm**} is also regularly used for the word *yǐn* ***qəmʔ** 飲 'drink' in the Chu script, and it is a variant of the Western Zhou-CF character 歠 {酉 + 今 ***Kəm** + 欠 ***Kəm**}, in which 今 and 欠 are equivalent phonophorics.. The variation 酓 ~ 歠 appears already in the W. Zhou script.

W. Zhou [歠] (善夫山鼎) [酓] (伯弜壺) CF Jin (中山王壺)

In the development to the CF, the shape of 酉 changed from (師遽方彝) to (篙平鐘) or (篙平鐘). The Chu character 酓 shares this feature. The regional peculiarity lies in the shape of 今. As seen in the examples (楚王酓章鎛),

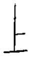
104 The word *yǐn* ***qəmʔ** and the phonophorics 今 (Cf. *jīn* ***kəm** 'present time') and 欠 (Cf. *qīn* ***kʰəm** 欽 'admire') in common suggest the syllable type ***Kəm ~ *Qəm**, which does not quite match phonologically with *xióng* ***Gʷəm** 'bear'

(str.50) and (LZ-A,33), the original triangular part of 今 became square, covering the 酉 component on top rather than sitting above it; the two horizontal lines in 今 (克鼎) also changed the position accordingly. The 今 as a single component character is written in the Chu script as (Tang 17) (str.35). As the original center strokes moved to the right side, one short stroke is added on the left side so that the character has some structural substance on both sides.

4.4 The nature of regionalism in the Warring States script

As demonstrated in examples (1)-(27), character forms peculiar to or characteristic of the Chu script, regardless of how dominant they are within the Chu writings, in most cases follow the five patterns of variation, viz., (i) addition of a signific, (ii) use of a synonymous signific, (iii) use of decorative strokes, (iv) graphic simplification and (v) differing shapes of the same component. The following tables summarize the examples.

Chu regional form type (i)-(ii): Structural augmentation and synonymous significs

Western Zhou		Chu: Augmented	Chu: Simple	Common W.S. form
上	(啟卣)	(鄂君啟舟節)	(SHZY)	 (中山王壺)
中	(頌簋)	(SHZY)	(Tang 16)	(中山王鼎)
命	(競卣)	(鄂君啟節)	(SHZY)	(中山王鼎)

The augmented or alternative significs in the writings from Chu are usually of conventional kinds: the addition of 辶 'motion' as in ⿺辶上 versus CF 上 for *shàng* '(go) up', that of 宀 'space' as in ⿱宀中 *vs*. CF 中 for *zhōng* 'center', that of 攴 'treat' or 殳 'spear (> attack, tackle)' as in ⿰命攴 or ⿰命殳 *vs*. CF 命 for *lìng* 'commander' are all unsurprising although we cannot predict precisely for which words these semantically plausible significs would appear.

As discussed earlier, the possibility of adding a signific to a historically single component character is a common property of the W.S. script. We find in the Zhongshan-Jin script, for example, the following characters with added 辶.

Cross-regional parallel: Zhongshan-Jin cases of added 辶 for 'motion'

huì 會 'come together' (中山王壺) {會 + 辶}

wáng 亡 'be gone' (中山王鼎) {亡 + 辶}

Chu regional form type (III): decorative strokes

	Western Zhou	Chu: Decorated	Chu: Simple	Common W.S. form
未	(利簋)	(Zhong 2)	(Tang 17)	(Qin Seal)
則	(格伯簋)	(曾侯乙鐘)	(鄂君啟舟節)	(中山王壺)

Two types of decorative strokes that often generate Chu regional forms are the single horizontal stroke on a vertical center stroke, and the symmetrical slanting strokes added on the 人-shaped structure which turns the latter into the 火 shape. The first one is a common W.S. decorative stroke type; the second is not found in other regional W.S. materials discovered thus far. These two types of decorative strokes add substance in particular to the lower half of the character. This kind of graphic adjustment is in accordance with the structural and calligraphic tendency in the W.S. script towards gravity and symmetry.

Warring States tendency towards gravity and symmetry

	余	齊	金	享	内
W. Zhou	(何尊)	(齊卣)	(史頌簋)	(士父鐘)	(師兌簋)
CF	(Qin Seal)	(齊陳曼簠)	(陳侯因𬁼錞)	(邾公華鐘)	(子禾子釜)

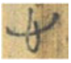
The Zhongshan-Jin script for example has its own regional forms generated by the addition of decorative strokes used to the effect of gravity and symmetry.

Cross-regional parallel: Zhongshan-Jin cases of balancing decorative strokes

節	竹	亡
(中山王壺)	(盗壺)	(中山王壺)

Note the horizontal stroke at the bottom of the 卩 component in 節, the double horizontal line between the two parts in 竹 and the horizontal stroke in the little enclosure in the 亡.

Chu regional form type (Iv): simplification

Western Zhou		Chu		Common W.S. Form
		Simplified	Full	
金	(史頌簋)	(SHZY)	(欒書缶)	(郝公華鐘)
心	(克鼎)	 (SHZY)	(Xing 9)	(中山王壺)
大	(頌鼎)	(鑄客鼎)	(Tang 5)	(中山王兆域圖)
至	(兮甲盤)	(Zhong 4)	(Yu-3, 26)	(郝公牼鐘)
永	(永盂)	(Xing 10)	(SHZY)	(陳逆簋)
為	(雍伯鼎)	(SHZY)	(曾侯乙鐘)	(陳逆簋)
才	(克鐘)	(曾姬無卹壺)	(Tang 18)	(中山王壺)

Graphically simplified Chu forms are derived from their CF counterparts by linking, deletion and interruption of stokes, particularly of a vertical center stroke, and by truncation of graphic components. As shown in Section 3.3, all of these methods are well known in other regional scripts. The Zhongshan-Jin script has

some regional forms generated by the vertical stroke deletion or interruption. Some examples presented in Section 3.1 and repeated here are:

Cross-regional parallel: Zhongshan-Jin cases of interrupted vertical strokes in casual style

夫		(扁壺)	*vs.*	(圓壺)
至		(兆域圖)	*vs.*	(大鼎)
昔		(圓壺)	*vs.*	(大鼎)

4.5 Some ‘true’ Chu characters for a diagnosis of the Chu script

It is important that any given Chu regional variant, when there is a significant change in the development from the W. Zhou to Common W.S. form, shares with the latter the newly developed feature. In other words, a Chu regional form is explained as a derivation from its corresponding CF rather than directly from its W. Zhou predecessor. The Chu script itself did not exist as an independent writing system separately from the W.S. script.

Derivation of Chu form from Common Warring States form

	Western Zhou	Common W.S. form	Chu
上	(啟卣)	(中山王壺)	(鄂君啟舟節)
金	(史頌簋)	(郘公華鐘)	(SHZY)
亯(享)	(缶鼎)	(郘公華鐘)	(SHZY)
福	(士父鐘)	(Shuihudi)	(LZ-A, 38)

永	(永盂)	(陳逆簠)	(Xing 10)
言	(伯矩鼎)	(中山王壺)	(Liu 45)

Then how can we identify 'true' regional forms? One may suppose, as mentioned earlier, character forms found in a certain region that differ from their CF counterparts in the execution of their shared components are unlikely to recur in other regions. The peculiar character shape of 乘 for *shèng* 'carriage' appears consistently in Chu and so does the shape of 酓 for *yǐn* 'drink'.

Another kind of variants that can make good candidates for truly region-peculiar forms is ones containing untypical alternative components. Interestingly, the Chu form for *jiā* 'home' with the added 爫 'claw, grasp' contrasting with CF 家, and the for *suì* ***sGʷat-s** with *yuè* ***ŋʷat** 月 'moon' displacing part of the signific 步 'step' and part of the phonophoric 戉 **Gʷat** in CF 歲 not only have unconventional alternative components, but are also exclusively used in the Chu region. Their CF variants do not appear in W.S. Chu writings thus far discovered. We may consider these 'true' Chu characters. We could use characters such as these that have features that are unlikely to be repeated elsewhere and that stand for common words for a diagnosis of manuscripts produced in the Chu region.

5 The Shanghai "Zhouyi" and the Early Chinese Orthography

In this chapter, I will discuss alternations of synonymous significs and equivalent phonophorics as a central orthographic feature of the early Chinese script. I will demonstrate that a large part of textual variation between the Shanghai "Zhouyi" manuscript and the received version can be explained by interchanges of those graphic components of the same semantic or phonetic functional values in the early Chinese writing system.

5.1 Synonymous Significs

This section illustrates sixteen sets of synonymous significs surrounding variation between the manuscript and the received version of the *Zhouyi*. Some of the best known sets among these are: the significs 阜 'mound' and 土 'ground' for 'orographic terms' (example no.1); 彳'road' and 止 'step' for 'motion, sequence, elapse of time' (no.2); 木 'tree' and 艸'grass' for 'plants' (no.3), 攴 'attack' and 殳 'spear' for 'violent actions' (no.4), 言 'language' and 心 'mind' for 'cognitive and volitional activities'(no.5).

The semantic functional values and patterns of interchangeability of these significs were stable both historically and cross-regionally in the early Chinese script. When significs in two characters corresponding between SHZY and R are not relatable as synonymous significs, one often finds that the meaning of the word in the textual position is not clear from the limited context of the hexagram lines; when such a variation is observed between SHZY and R, various commentaries and other witnesses of the *Zhouyi* also tend to have disparate accounts of the word at issue. This strongly suggests that those textual variants with unrelated significs actually reflect different interpretations (5.1: no. 7, no.15 and 5.2: no.2, no.3).[105]

There is one pair of graphs which alternate regularly but for no semantic value, viz., 口 'mouth' and 又 '(right-)hand'. They may sound related as body

105 By contrast, the corresponding phonophorics in such cases still tend to remain the same, either being identical or being equivalent phonophorics. This shows that phonetic values of words in the *Zhouyi* could be preserved even when the words' meanings became obscure.

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parts, but they function as mere graphic substance either displacing a more complex graph by way of simplification or being added for overall graphic balance of a whole character (no.8).

There is a high degree of consistency in the choice of a signific for individual words within a region or a manuscript corpus, but cases where regional scripts choose different significs for an entire semantic class of words seem rare. An exception may be 鼠 ‘rat’ and 豸 ‘ferocious animal’ for ‘animals’, the former being preferred in Chu and the latter in Qin; still, there is a third synonymous signific for this semantic class, which is 犬 ‘dog’: the latter is used in both regions alternating with the other more region-specific ones (no.9).

Members in a handful pairs of SS regularly co-occur like a compound signifc within one character. In such cases, the two members appear differentiated as “primary” *vs*. “secondary”: the primary one is used alone more often than not, but the secondary one rarely does. Correlated with this, their graphic positions are distinguished as the left side and the lower side of another component. Examples are 阜 ‘mound’ and 土 ‘ground’ (no.1), 彳 ‘road’ and 止 ‘step’ (no.2), 石 ‘stone’ and 土 ‘earth’ (no.15).

Some significs have dual values, and the division in the meanings becomes clear through their memberships in separate semantic classes of SS. E.g., 心 interchanges with 言 ‘language’ for ‘cognitive, volitional activities’ on the one hand, and it does with 口 ‘mouth’ for ‘emotions’ on the other hand. But the last two have no contact. The two values of 心, effective in these two distinct sets of SS, thus can be named ‘mind’ and ‘heart’ respectively (no.5, no.11); 土 has several values, the one alternating with 阜 ‘mound’ for orographic terms can be named ‘ground’ (no.1), the one alternating with 水 ‘water’ for geological terms ‘earth’ (no.13), and the one with 缶 ‘jar’ or 瓦‘tile’ may be ‘earthenware’ (no.14). As suggested above, some of the functions of 土 seem secondary to the other member(s) in the same set.[106]

(1) 阜 (阝) ‘mound’ and 土 ‘ground’

The significs 阜 (阝) ‘mound’ and 土 ‘ground’ are often used in combination with each other for orographic terms and words that have to do with location. In bronze inscription texts from both the Western and Eastern Zhou periods, we often find the 阝土 combination alternating with 阜 (阝) alone, but not with 土 alone. So it seems that the 土 was in a secondary SS relation with 阜 (阝), which could be either added as a redundant signific or could be readily omitted.

106 See Appendix II for more functions of 土, and also for all SS discussed in this study.

chén 陳 'military camp'

[陳] (陳侯鬲) [陳] (陳逆簋) JWB: 942

lù 陸 'high flat mound'

[陸] (義伯簋) [陸] (邾公釛鐘) JWB: 939

líng 陵 'mound'

[陵] (陵方罍) [陵] (陳猷釜) JWB: 937-38

zhuì 墜 'fall'

[墜] (𤔲簋)

dì 地 'territory'

[隊] (蚉壺)

This last form 隊 for *dì* ***llwaj-s** < ***llwar-s** 地 'ground', consisting of 阜 (阝), 土 and 彖 is recorded in the *Shuowen* as the *Zhouwen* form corresponding to the Qin Seal 坨 (地) (墜, 籀文地, 从阜土彖聲; 13b/682). The latter contains the phonophoric 它[107] (師遽方彝) (Cf. 它 *tā* < *tuō* < ***hllwaj** < ***hllwar** 'other') instead of the 彖 (Cf. *tuàn* ***hllwan-s** < ***hllwar-s** 彖 'pig') as in the *Zhouwen*. The form 陀 (Yu-3, 19) predominant in Chu manuscripts contains the typical compound signific 阝土 while it shares the same phonophoric with the Qin Seal form. Apparently, the W. Zhou form 隊 was preserved only in the W.S. Jin script: the bronze form cited above is from Zhongshan (early W.S., MWX 2.882), and the same form is found in the Houma covenant texts from the Jin state of the late S.A. and early

107 The graph does not have the structure 宀 + 匕 as suggested in the clericized form. It is used in bronze inscriptions for *tā* 他 (variant of 它) 'other' and *chí* 池 'pond' among other words. The single early form split into two different clerical forms 它 and 也 (Rong Geng 1985: 876).

W.S. periods (He Linyi 2003: 240). It is probable that the form ⿰阝⿱它土 which underlies both the Qin and Chu forms existed as a variant of 墬 in the W. Zhou period.[108]

A few textual variants between SHZY and the received version reflect alternation of the SS {阜 (阝), 土}.

⿰阝⿱止土 (str.33) :: 陞 *shēng* 'rise'

The Chu form here has 止 'step' co-occurring with 阜 instead of 土. The semantic function of 止 is justifiable for this word, but it is also graphically similar to 土.

陸 (str.50) :: 陸 *lù* 'high flat mound'

⿰阝⿱反土 (str.50) :: 阪 *bǎn* 'slope'

In the case of *bǎn* 'slope', the received character has only 阝 (阪) while the corresponding MWD "Zhouyi" variant has only 土 (坂).

SHZY has the character ⿱付土 corresponding to *bù* 蔀 'thatch' of R.

⿱付土 (str.51) :: *bù* ***bboʔ** 蔀 'thatch'

SHZY: 九四 豐亓⿱付土
Received: 九四 豐其蔀
R: Nine on the fourth. FENG ('thicken, enrich') the thatch (Hex.55 *Feng*).

SH: 上六 豐亓芾⿱付土亓豙
Received: 上六 豐其屋蔀其家
R: Six on the top. FENG the house. Thatch (the roof of) the home (id).

108 Other than Xu Shen's citation of the character from the *Shi Zhou pian*, the *dì* 地 'ground' which we would consider a common Old Chinese word is not attested in W. Zhou bronze inscriptions discovered thus far. The common word for 'ground, land, territory' is *tǔ* 土 in the early Zhou period, appearing in the phrases such as 氒土 "their land", 我土 "our land", 土田 "land and field" and 疆土 "frontiers and territory". The form 陀 (⿰甚夫簋) {阜 + 它} appears just once in a late W. Zhou inscription, but there it stands for an adverb in a reduplicative binom: 陀陀降余多福 "Benevolently (?) send us down plentiful blessings!" (late W. Zhou, JC 5045).

The *Shuowen* has the form 坿 defined as 'augment, increase' (坿, 益也; 13b/689). Given the SS {阝, 土} we may suppose that it is a variant of the received standard form 附 for *fù* ***bo-s** 'append, increase'. Xu Shen on the other hand defines the Seal form 附 as the first character for the disyllabic word *fù lóu* 附婁 'small mound' (附, 附婁, 小土山也; 14b/734). The selection of the significs 阝~ 土 may have been initially made for this context, as Xu Shen suggests. It then came to be used regularly for the word *fù* 'augment'. It is probable that *bù* ***bboʔ** 蔀 and *fù* ***bo-s** 附 are etymologically related, the latter being a verb derived from the noun 'thatch' by the denominal ***-s** suffix.[109] The meaning 'increase, augment' would be an extended and generalized sense of 'thatching'. It seems that 坿 in SHZY stands for both the etymologically related noun and verb just like the character 蔀 in the received *Zhouyi*. In the first line the 坿 stands for the noun 'thatch' and in the second for the verb 'to thatch'. The etymological relation between *bù* 'thatch' and *fù* 'increase' throws light on the double entendre in the *Zhouyi* line: 坿 (蔀) 其 家 means 'to annex their estate [to one's own estate]' which makes one's estate "affluent", i.e., *fēng* 豐, the theme of this hexagram, at the same time it means 'to thatch the home' which makes the roof "thick", i.e., *fēng* 豐.

(2) 彳 'road' and 止 'step'

The significs 彳 'road' and 止 'step' often co-occur for words that have to do with motion, sequence or elapse of time.[110] Like the case of the SS {阜, 土} above, 止 is

109 As Baxter pointed out (1992: 500), the OC final ***-o** (Hou group) seems to have shifted to ***-ə** (Zhi group) after labial initials in some dialects. Words written with 咅 or 部 fluctuate between ***-ə** and ***-o** in *Shjing* rhymes. Since labial words are relatively few in the Hou group it is reasonable to assume that the original ***-o** changed to ***-ə** (dissimilation) rather than the other way around. Wang Li (2000: 1091) assigns the word *bù* 蔀 to the Zhi group, but it has to be coordinated with the 付 series which is a definite member of the ***-o** group based on its textual and graphic connection with the latter. The word *fù lóu* 附婁 mentioned above is variably written also as 部婁 and 培婁 in the received literature (Wang Li 2000: 1582).

110 SHZY has the form [选] for *xiān* 先 'former, precede', used in the sense of 'to precede (in time)':

SHZY: 蛊 元 卿 秎 涉 大 川 选 甲 晶 日 逡 甲 晶 日
Received: 蠱 元 亨 利 涉 大 川 先 甲 三 日 後 甲 三 日

The Gu ('legendary poisonous bug'). Primary *xiang*-sacrifice. It is beneficial to ford a big river preceding the *jia* (first day of the ten-day week) by three days and following the *jia* by three days (Hex.18 *Gu*).

secondary to 彳. The alternation 彳止 ~ 彳 is more common than 彳止 ~ 止. The early compound signific 彳止 evolves to a single graph 辶 in clericization.

wàn 萬 'ten thousand' as in 萬年 'ten thousand years'

[𠍲] (庚贏卣) [𧀹] (史頌匜) [邁] (彔伯簋) JWB: 955-58

hòu 後 'come later, posterity'

[後] (師望鼎) [逡] (x 鼎) JWB: 112-13

zhēng 征 'go on a military campaign'

[正= 𤴓] (師遽簋) [征= 辽] (班簋) JWB: 88-89, 93-94

yù 御 'inspection tour'

[御] (牧師父簋) [御] (頌鼎) JWB: 114-15

fù 復 'return'

[復] (復公子簋) [退] (散盤) JWB: 111

nì 逆 'go against'

[𢓜] (仲爯簋) [逆] (同簋) JWB: 96

SHZY has two characters that vary with their received counterparts by the alternation 彳止 ~ 彳.

退 (str.20) :: 復 *fù* 'return'

逡 (str.9) :: 後 *hòu* 'posterity'

(3) 木 'tree' and 艸 'grass'

The variants in SHZY for *lâi* 來 'come' where four different significs 彳, 止, 木, 艸 combine with the shared phonophoric 來 are accounted for by two distinct sets of SS, {彳, 止} and {木 'tree', 艸 'grass'}.

[逨] (str.9) [⿱來止] (str.35) [檰] (str.35) [⿱萊止] (str.51)

It is likely that the 木 ~ 艸 variation is unrelated to the word *lâi* 'come' itself, but belongs instead to the character 來 (般甗) which was originally created for a plant name[111] and which was selected as a phonophoric in this new compound character for *lâi*. The SS {木, 艸} recurs in another character in SHZY.

芑 (str.41) :: 杞 for *qǐ* 'plant name'

So the structure of ⿱萊止 for example, would probably be {S 止 + Ph 萊 (< S 艸 + Ph 來)} rather than {S 止 + S 艸 + Ph 來}. The word *lâi* is most commonly written with the single component character , but occasionally as 逨 (逨觶) in W. Zhou bronze inscriptions.

(4) 攴 (攵) 'treat, strike', 戈 'halberd', 殳 'spear' and 又 '(right-)hand'

The signific 攴 which consists of a signific 又 '(right-)hand' and a phonophoric 卜 (Cf. *bǔ* ***ppok** 卜 'divination') and stands for the word *pū* 攴 (variably written 撲, 扑) ***pphok** 'strike' frequently alternates with the significs 戈 'halberd', 殳 'spear' and 又 '(right-) hand' (Gao Ming 1987: 161, He Linyi 2003: 231-32). The first two are used for words that have to do with 'violence' or 'aggression'. The last has a very wide range of application, including action verbs that involve the hand or any verb whose meaning can be generally described as 'handling' or 'treatment'. Alternating with all these significs, the function of the graph 攴 is versatile and its semantic value is vague. Xu Shen's definition of the meaning of *pū* 攴 is quite amusing: "攴 means lesser attack" (攴, 小擊也; 3b/122). We would think that 戈 and 殳 should make a pair of SS since they are semantically close, but we do not

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111 There are two common plant names written with 來 in the received orthography: *mài* ***mmrək** 麥 'barley' and *lái* ***rrə** 萊 'type of grass'. It is generally agreed that the OBI form developed as a depiction of 'barley'. The characters for *lái* 'come' and *mài* 'barley' were already distinguished as and respectively in the OBI (*Jiagu wen bian*, 251-52).

find them alternating for the same word. Recurring pairs of SS are {戈, 攴}, {殳, 攴} and {又, 攴}.

攴 ~ 戈

qǐ 啓 ‘initiate’

[啓] (召卣) [啓] (虢弔鐘) JWB: 209-10

jiù 救 ‘rescue’

[救] (周宅匜) [栽] (中山王鼎) JWB: 216

kòu 寇 ‘attack’

[寇] (揚鼎) [寇] (大梁鼎) JWB: 219

攴 ~ 殳

bài 敗 ‘defeat’

[敗] (五年師旋簋) [敗] (鄂君啟舟節) JWB: 219

zhèng 政 ‘govern’

[政] (兮甲盤) [政] (鄂君啟舟節) JWB: 213

qū 毆 ‘drive, herd’

[敺] (師寰簋) JWB: 206

又 ~ 攴

jì 祭 'offering'

[祭] (史喜鼎) [祭] (欒書缶) JWB: 11

jiān 堅 'firm'

[堅] (Qin Seal)[堅] (a Qin Seal inscription, Xu Xiongzhi 2001: 58)

Examples from SHZY are as follows:

攴 ~ 殳

毄 (str.1) :: 擊 *jī* 'strike'

繫 (str.40) :: 繫 *xì* 'bind'

殺 (str.57) :: 殺 *shā* 'kill'

攴 ~ 戈

寇 (str.1) :: 寇 *kòu* 'beat'

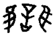
攴 ~ 又

祭 (str.57) :: 祭 *jì* 'offering'

(5) 言 'language' and 心 'mind'

Gao Ming (1987: 153) lists as many as ten cases of the alternation between 言 'language' and 心 'mind'. Words written with the 言 ~ 心 in general have the semantic features 'cognitive' and 'volitional'. These words may seem to involve speech acts, but the act is fundamentally a mental execution. Some of Gao's examples are as follows.

chóu 讎 'respond'

[讎]  (鬲比盨) [[illegible]] (讎尊) JWB: 139

shùn 訓 'comply'

[訓] (QS; 3a/91) [[illegible]] (中山王壺)

móu 謀 'plot'

[謀] (Qin Seal)[112] [[illegible]] (中山王鼎)

dé 德 'mental capacity, innate power'

[[illegible]] (史頌鼎) [德] (毛公鼎)

112 The form [illegible] is recorded in the *Shuowen* as a *guwen* counterpart of the Qin Seal 謀. The cited bronze form is from Zhongshan. It is also the dominant form in Chu manuscripts: (LZ-A, 25) (See CWZ: 142). The phonophorics 某 and 母 are of the same phonetic functional value, ***Mə**: *mǒu* ***mməʔ** 某 'a certain (person) and *mǔ* ***mməʔ** 母 'mother'. The *Shuowen* has 某 defined as 酸果 "(a type of) sour fruit (6a/248)". This character is clearly a variant form for *méi* ***mmə** 梅 'plum' (Wang Li 2000: 469) (某 for the pronoun would be a rebus usage of this character.) These two cases suggest EP {某, 母} .

jǐng 警 'warn'

[警] (Qin Seal) [憼] (叔夷鐘)

qiān 諐 'violate, breach'

[諐][113] (*Houma Mengshu*: 349) [愆] [114] (*Houma Mengshu*: 349)

SHZY has variants for *yù* 譽 'praise' with the 言 ~ 心 alternation.

譽 (str.35) ~ 懙 (str.51) :: 譽 *yù* 'praise'

The character 請, sometimes used for the word *qíng* 情 'feelings' in transmitted early texts, would appear to be a loan of *qǐng* 請 'request', but this is accounted for as a graphic variation 請 ~ 情 via the SS { 言, 心}. The form 情 for *qíng* became the standard only during Han times. According to Richter (2005: 194), in both the Mawangdui "Laozi A" (in the *guli* 古隸, which is a kind of intermediary between the W.S. and clerical script in style) and "Laozi B" (in *Hanli* 漢隸) manuscripts, the form 請 is used for *qíng* 情 (nine occurrences altogether). Note that *qíng*, usually translated as 'emotion' also has the meaning 'circumstances' especially in juridical contexts.[115]

> 聽之經明其請參伍明謹施賞刑 *Xunzi* 荀子 "Cheng xiang 成相"
> Hear the case with regard to the course of the matter, clarify the circumstances. When investigation is clear and meticulous, then execute awards and punishments.

In the Shuihudi late W.S. Qin manuscripts we find the sentence:

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113 The *Shuowen* has 諐 as a *Zhouwen* variant of 愆 for *qiān* ***k^{h}ran*** 'transgress' (10b/511). The 侃 and 衍 are EP for ***Kan**. The word *yǎn* (< *yenX*) *[**g**]**ranʔ** 衍 'overflow, excessive' seems to be etymologically related to *qiān* ***k^{h}ran*** 諐~ 愆 'transgress, violate'.

114 人 (亻) 'person' and 彳 'road' are graphically similar and often become confused (He Linyi 2003: 234).

115 Accoding to Ulrich Lau (personal communication, 2014), the word *qíng* in Qin and Han legal manuscripts is usually interpreted as "the truth" or "motives" in criminal cases

> 甲弗告請 “法 167” quoted in Zhang Shouzhong (1994: 30)
> If a certain person *jia* should fail to report the [real] situation…
>
> 小大之獄雖不能察必以情 *Zuozhuan*, “Zhuanggong shinian 莊公十年”
> Although we cannot make investigations into all the small litigations, we must base ourselves on the *qing*.

The last sentence provides a clue to the semantic link between ‘situation’ and ‘emotion’ surrounding the word *qíng*. The *qíng* here means ‘intuitive judgment of the actual circumstances’. To the contrary of the usual connotation of ‘emotion’ or ‘emotional’, *qíng* involves a cognitive and volitional act.[116] The signific 言 seems to be a natural choice for this early Chinese word. A similar case is the 說 ~ 悅 alternation for the word *yuè* ‘pleased, content’. The occurrence of the character 說 for this word is so prevalent in received pre-Han texts that a commentator of the *Guoyu* has said that it was the proper character for *yuè* in the old times (See Gao Heng 1989: 638-641). The signific 言 would seem just fit for such a word as *shuō* 說 ‘explicate, explain’. But what would be the rationale for selecting the 言 as a primary signific for *yuè* ‘pleased’ also? In the *Zhanguoce* the expressions *bù yuè* 不說 “to be not pleased” and *nǎi yuè* 乃 說 “to be then pleased” are usually used to describe the reaction of a feudal king to his visitor, a “traveling persuader”. The king is said to be “*bù yuè*” when he finds his visitor not good enough to employ; he is “*nǎi yuè*” when he changed his first impression of the negative judgment to a positive one after hearing the visitor’s persuasion. So the *yuè* is not really a state of mind like ‘joyous’ or ‘happy’ but it is more of a cognitive kind, such as ‘consider (something) satisfactory’.

(6) 宀 ‘roof’ and 广 ‘hall’

The significs 宀 and 广, which are both typically used for words that have to do with ‘building’ or ‘indoor’ occasionally alternate for the same word (Gao Ming 1987: 173).

guǎng 廣 ‘spacious’

[廣] (班簋) [寘] (士父鐘) JWB: 658

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116 Graham (1990: 59-66) argues that *qing* in the classical literature does not mean “passion” but it means “the facts” as a noun and “genuine” as an adjective.

dàng 宕 'cave-dwelling' (?)[117]

[宕] (⿹戈冬簋) [㝐] (召伯簋二) JWB: 532

ān 安 'stable'

[安] (安父簋) [㡯] [118] (格伯簋) JWB: 515

yàn 宴 'feast'

[宴] (宴簋) [㢉] (鄂侯鼎) JWB: 515

An example from SHZY is:

庿 (str.42) :: 廟 for *miào* 'ancestral temple'

The graphic variation between 庿 and 廟 involves an alternation of the SS {宀, 广} and also a phonophoric replacement of 朝 (cf. *cháo* ***ddraw** 朝 'current', 'court') by 苗 (Cf. *miáo* ***maw** 苗 'sprout'). The word *miào* 廟 occurs frequently in W. Zhou bronze inscriptions. It is typically written with the signific 广 as (虢季子白盤) and occasionally with 宀 as (⿱宀朝伢鼎). The graphic element depicting flowing water, being a rare, if not isolated, graphic element is displaced by the graphically similar and more frequently used 舟 'boat' in the Qin Seal form on the one hand and by 月 'moon' in clericization on the other. It is distinguished from *shuǐ* 水 'water' as seen in 水 (沈子它簋) and in *chí* 池 (靜簋) 'pond'.

The form with the phonophoric 苗 seems to have arisen during the Eastern Zhou period; it became the norm in various regional scripts other than Qin. It is recorded in the *Shouwen* as a *guwen*, and it also appears in the Zhongshan corpus as (中山王壺). If 朝 (*cháo* ***ddraw** 'current', 'court') is the phonophoric in 廟 *miào* ***m-raw-s** 'ancestral temple', this means that the initial *m- is a prefix.[119]

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117 The *Shuowen* says 宕,過也，一曰洞屋 "宕 means *guò* 過 'pass by, exceed'; some say it is [or, originally stood for] cave dwelling (7b/342)." Only the first meaning is attested in the Western Zhou bronze texts. We can only guess from the alternation 宀 ~ 广 for this character that the character was originally created for some word having to do with dwelling or architecture.

118 This graph appears as 厂 (< 石 'stone'), but it is probably intended for 广.

119 The word *miào* 廟 is a *chongniu* Division-III syllable. Baxter's 1992 "-rj- hypothesis", which is now notated as -r- with unpharyngealized onset, works well for this case.

The replacement by *miáo* ***maw** 苗 'sprout' suggests the following possible sound changes in ***m-raw-s**: the root initial ***r-** was lost; if not, the prefix *m- was reanalyzed as the root.

(7) 糸 'thread, fabric' and 衣 (衤) 'clothes'

Gao Ming (1987: 170) notes several examples of variant forms with the 糸 ~ 衣 alternation from the *Shuowen*. He explains that although Xu Shen in most cases registers the two variants in each pair separately under their respective classifiers, a common semantic feature can be discerned from Xu Shen's separate definitions and that the matching characters are used interchangeably for the same word in early received texts. Some of Gao's examples are:

qiǎng 繦 'cloth used to carry a baby on the back'

[繦] (13a/645) [襁] (8a/390)

tí 緹 'reddish yellow silk'

[緹] (13a/650) [衹] (13a/650)

lóu 褸 'collar'

[縷] (13a/656) [褸] (8a/390)

[絞] :: 袽 interpreted as *rú* ***nra** 'rags'.[120]

SHZY: 六 四 需 又 衣 絞 冬 日 戒
Received: 六 四 繻 有 衣 袽 終 日 戒
Six on the fourth. Xu (Ru?)[121] has rags. One is guarded all day long (Hex.63 *Jiji*).

120 *Jingdian Shiwen* (120): "袽, 女居切 (MC *nyo*)，絲袽也".
121 The interpretation of this word is problematic. Gao Heng (1947 [1973]: 219) argues that the character 繻 in the phrase "繻 有 衣 袽" is a textual corruption (Cf. *rú* 繻 'dyed silk') and it should be correctly read as *xū* 濡 'soak'. His reason is that the latter appears two other times in the same hexagram chapter as in 濡其首 "Soak its head" and 濡其尾 "Soak its tail" and that 'soak' makes sense in connection with the word *jì* 濟 'cross (a water)' in the hexagram theme *jì jì* 既濟 "already crossed". But we also need to consider the factor of double entendre and pun. Furthermore the

The SHZYcharacter 絮 has the 糸 'thread' and 又 'hand' corresponding to the 衣 'clothes' and 口 'mouth' of the received character 袽.

(8) Semantically void 又 '(right-)hand' and 口 'mouth'

The graphs 又 and 口 often co-occur or alternate with each other without any obvious semantic function. They tend to be used as a substitute for a graphically more complex component when at least one other signific with a discernable semantic function is present in the character. It seems that they are little more than simply "fillers" used to give a symmetrical appearance to a character.

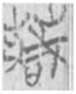
zhù 鑄 'cast'

[鑄] (師同鼎) [鑄] (虢弔盨) Compare (取虘匜)

jiā 嘉 'fine'

[嘉] (str.17) [嘉] (str.31)

cáng 藏 'store, hide'

[藏]  (str.40)

The graph 口 in 藏 for *cáng* 藏 takes the place of 臣 (str.35) in the latter. This simplified form occurs regularly in Chu manuscripts.

Given the {糸, 衣 (衤)} and {又, 口} alternations, the SHZY 絮 and R 袽 are likely variants from the early script. The character 絮 for *xù* (< *sjoH*) ***s-nra-s** 'coarse cotton (thread)' registered in the *Shuowen* (敝緜(綿)也; 13a/659 "low quality cotton";), may be another variant form of 絮 ~ 袽. Lu Deming (*Jingdian Shiwen*, *juan* 2/120) notes that Jing Fang's 京方 version has the character 絮 and Zi Xia's 子夏 has 茹. The latter contains 艸 'grass', which makes sense for '*cotton* thread'. MWD version also has 茹.

"繻" is in the subject position so it is most likely intended as a noun. The signific 糸 maybe a later addition influenced by the context where the word/character occurs, but the 水 in 濡 may also reflect a later interpretation. The SHZY version has the form 需 without a signific for both the 繻 and 濡 of R.

(9) 鼠 ‘rat’, 豸 ‘ferocious animal’, and 犬 ‘dog’

鼠瓜 (str.37) :: 狐 *hú* ‘fox’

The SHZY character has 鼠 ‘rat’ instead of the received character’s 犬 ‘dog’. Alternation of characters for animals used as significs is typical of the OBI script. The word *mù* 牧 ‘herd’ is written variably with 牛 ‘cow’, 羊 ‘sheep’ and 鹿 ‘deer’ and *zhú* 逐 ‘follow’ with either 豕 ‘pig’ and 鹿 ‘deer’. Characters for the words *mǔ* 牡 ‘male domestic animal’ and *pìn* 牝 ‘female domestic animal’ appear with all of those significs (Gao Ming 1987: 162). The characters *láo* 牢 ‘pen’ and *gāng* 犅 ‘ox’ appear in Shang and W. Zhou inscriptions variably written with 牛 or 羊.

犅	[犅] (仲簋)	[犅] (犅刧尊)	JWB: 55
牢	[牢] (貉子卣)	[宰] (爵文)	JWB: 55

In the W.S. script the sigifics 牛, 羊, 豕, 鹿, 馬 ‘horse’ and 犬 ‘dog’ do not show contact with one another. The 鼠 ‘rat’ in the Chu script is peculiar. It appears regularly in characters written with the component 豸 in the Qin script. The words such as *bào* 豹 (Qin Seal) (Shuihudi) ‘a kind of wild cat’, *hé* 貉 // ‘badger’ and *lí* 貍 // ‘fox’ in all cases appear in the Baoshan and Zenghou Yi bamboo Chu manuscripts written with 鼠 (See CWZ: 566, 578-82). Which animal the graph 豸 is originally intended for is unknown. Xu Shen seems to suggest that the meaning of this signific is ‘ferocious animal’: 獸長脊行豸豸然有所司殺形 (9b/457) “[The graph depicts] the long back of a wild animal, which moves like *zhi- zhi* (豸豸) scrutinizing something that it is about to kill”. The signific 犬 () ‘dog’ seems to be an occasional alternative both to the 鼠 of Chu script and to the 豸 of Qin: the character for *hú* 狐 ‘fox’ is found in two forms 鼠瓜 and 狐 in Chu manuscripts. The *Shuowen* enters the form 犴 with 犬 ‘dog’ as an occasional variant of the Seal form 豻 (9b/458). The variation 鼠瓜 ~ 狐 in the Chu and received *Zhouyi* reflects the SS {鼠, 犬, 豸} in the W.S. script.

(10) 貝 'cowrie shell' and 金 'metal'

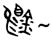
The characters in SHZY and received versions for *cì* 'give, grant' have the significs 貝 and 金 respectively.

賜 (str.7) :: 錫 *cì* 'give, grant'

SHZY: 上九 或賜緖纓
Received: 上九或錫之鞶帶
Nine on the top. In some cases, one grants [them (R)] waist bands and belts (Hex.4 *Song*).

SHZY: 九二 ... 王晶 賜命
Received: 九二 ... 王三 錫命
Nine on the second. The king granted the charge for the third time (Hex.7 *Shi*).

In this case it looks as if the received version has a loan character 錫, regularly associated with *xī* ***slek** 'tin'. But epigraphic sources suggest that the selection of the phonophoric 易 for 'tin' is inspired by the use of the latter for *cì* ***slek-s** 'grant', a common word in W. Zhou inscriptions. This word is most commonly written in the single component form 易 (頌鼎), e.g., in 大矩易豐金貝用作父辛寶尊彝 "Daju granted Feng metals and cowrie shells to use them to make this treasure ritual vessel for the (deceased) father Xin" (mid W. Zhou, JC 5403), in 侯易害貝金... "Lord granted x cowrie shells and metals" (mid W. Zhou; JC 2749); and in 侯易中貝三朋... "Lord granted Zhong three double-stands of cowrie shells" (early W. Zhou, JC 2458). It is occasionally written with an added signific 目 'eye' as (虢季子白盤). We know the added graph is indeed 'eye' through an early W. Zhou form written as (召尊): 王睗乘馬是用左王 "The king granted a team of horses, and this is to be used to assist the king" (late W. Zhou, JC 10173).

The first attestation of the word *xī* 錫 'tin' is found in an early S.A. bronze inscription, written as  ~ (曾伯 x 簠): 繁陽金道 行 "Fanyang is the road for (sorts of) metals and sideways for tin" (MWX 2.691). The compositional structure of this character is most likely {S 金 'metal' + Ph 睗}, with the phonophoric taken from the form for *cì* 'grant'. We can imagine that the form 錫 for *xī* 'tin', though not attested, would have also existed as a variant of in the early script.

The form 賜 with 貝 for *cì* begins to appear in the late S.A. period. It seems to have become a common form in the W.S. script, for it is also attested in the Zhongshan bronze corpus: 氏以賜 之毕命 "(I, the solitary one) grant him his (appropriate) charge because of this" (late W.S., JC 2840). This form is evidently derived from the W. Zhou form 睗. The 'eye' is replaced by the graphically similar and also semantically justifiable signific 貝 'cowrie shell'. The form 鍚 for *cì* seems to have been created, probably during the W.S. period, by the selection of the signific 金 as a SS to the latter for the semantic category 'monetary value'. Zheng Xuan in his commentary to the *Yili* noted that in *guwen* texts the character 賜 is written as 鍚 (quoted in Gao Heng 1989: 69). We do not find an attestation of the latter form in W.S. bronze inscriptions, because a king's granting of gifts and money was no longer a frequent topic in inscription texts of Eastern Zhou times. The word *cì* in inscriptions from this period occurs mainly in the idiomatic phrase 用易眉壽萬年 "Use to make bestowals [with this vessel] for its full life of ten thousand years". The *cì* in this particular context is occasionally written 腸 (鄀公簠) with 肉 (月) 'meat', which also goes back to the W. Zhou period. The word *cì* in this usage, unlike the same word written 睗 ~ 賜, does not have a direct object. The signific 肉 (月) 'meat' is associated with the implied object of 'giving' in this specific context, i.e., food, which is to be contained in the vessel on which the text is inscribed.

(11) 心 'heart' and 口 'mouth'

SHZY has three characters that show alternation between 口 'mouth' and 心 'heart'. These significs indicate the semantic category 'emotion'. This signific 心 'heart' is of a different kind from the 心 'mind' above which alternates with 言 'language' for 'cognitive' and 'volitional' meanings. Also, this 口 'mouth' is semantically substantial, distinct from that same graph alternating with 又 without a semantic value.

⿱母心 (str.19) ~ ⿱母口 (str.47) :: 悔 *huǐ* 'regret'

The word *huǐ* 'regret', repeated several times in the divinatory idioms *yǒu huǐ* 有悔 "there are regrets", *wú huǐ* 無悔 "no regrets" and *huǐ wáng* 悔亡 "regrets are gone" is just once written with the signific 口 'mouth' instead of 心 'heart'.

⿱亞口 (str.32) :: 惡 *è* 'loathsome'

The character for the word *è* 惡 'loathsome', normally written in the Chu script with 心 as (Yu-2, 25) like the received character appears in SHZY with 口 in its single occurrence.

⿱帝心 (str.4) ~ 啻 (str.38) :: 惕 *tì* 'alarmed'

The two unfamiliar characters ⿱帝心 and 啻 which occur in the positions corresponding to *tì* 惕 'alarmed' of R and vary with each other by the repeated SS {心, 口}, can thus be considered variant forms for the same word as the one in the received version. The phonophoric variation is explained by the EP {帝, 易} (See Section 5.2.). The received character for *āi* ***qqəj** 哀 'sad' is composed of S 口 and Ph 衣 (Cf. *yī* ***qəj** 衣 'clothes'). The Guodian Chu manuscripts in addition to the form 哀 (Yu-3, 59) have two common variant forms, ⿴衣心 (LZ-C, 10) with 心 instead of 口, and ⿱哀心 (Yu-2, 31) with both 口 and 心 (CWZ: 74).

(12) 勿 'plough' and 刀 (刂) 'knife'

The following SHZY characters have the component 勿 'plough' corresponding to the 刀 'knife' in their received counterparts.

⿰禾勿 (str.11) :: 利 *lì* 'sharp, benefit'

⿰鼎勿 (str.34) :: 則 *zé* '(if)...then'

Compare for the shape of 刀:

初 (str.2) *chū* 'beginning' W. Zhou (旂鼎)

The distribution of 勿 is so limited, pretty much always occurring in combination with 禾 as 𥝢, such as *lí* 棃 (variant of 梨) 'pear (tree)' and *lí* 黎 'black, crowd' that Xu Shen could not even analyze it as a distinct component with a function. The Qin Seal form 利 is analyzed as a semantic compound; while recording a *guwen* form which is precisely like the manuscript form, Xu Shen does not seem to have recognized the structural variation 勿 ~ 刀.

> 利，刀和然後利，从刀和省…𥝢古文利 (4b/178)
> 利 (*lì* 'sharp'), a knife (刀) is sharp after having been harmonized (?). It is composed of 刀 and a simplified form of 和. 𥝢 is the *guwen* form of 利.

Jiang Liangfu (1999: 60) identifies this component 勿 with the graph on the right side in the OBI character interpreted as *jí* 耤 'king's own tilled land'.[122] This character is generally considered a depiction of a man holding a plough. As Jiang suggests, the character 犂, a variant of 犁, for *lí* ***rrij** 'plough' verifies the association of the graph 勿 with the word for 'plough' and its phonetic value ***rrij**. The graph 𥝢 was initially formed as a compound with the structure {S 禾 + Ph 勿 ***Rij**}. This original compound character soon came to be used as a whole as a phonophoric, which made the function of 勿 no longer significant. Being a part of 𥝢, the 勿 was then inclined to be replaced by the 刀 in graphic variation. The latter is graphically similar to and simpler than the former and also semantically justifiable for a word meaning 'sharp'. The semantic compatibility of 'plough' and 'knife' as 'farming tools' may have also played a role in this graphic alternation. We see a form that shows the transition from 𥝢 to 利 in W. Zhou inscriptions.

(師遽方彝) (㝬鐘)

In the second form the two slant strokes of the 勿 part are moved to the 禾 part (which is also altered to look like 木) and the original 勿 is left to look like 刀. (工

122 *Jiagu wen bian*, 203.

'craftsmanship' is an added signific.) Already in the first form, we can see a sign of the reanalysis of the original 勿 as 刀 plus two slanting strokes. In Chu manuscripts the form ⿰禾勿 (Tang 27) is the dominant one; the ⿰禾刃 (LZ-A 28) with 刃 'blade', a form derived from 刀 by adding a dot, appears occasionally (CWZ: 264-65).

(13) 水 'water' and 土 'earth'

The significs 水 'water' and 土 'earth' interchange for geological terms. The value of latter is distinguished from that of 土 'ground' alternating with 阜 (阝) 'mound' for orographic and geographic terms.

⿱⿸尾少土[123] (str.2) :: 沙 *shā* 'sand'

坭 (str.2) :: 泥 *ní* 'mud'

⿱余土 (str.33) :: 塗 *tú* 'clay'

The received characters 沙 and 泥 follow the Qin Seal forms. The form 塗 containing both the 水 and 土 reflects the frequent contact between these significs in the early script.

(14) 缶 'jar', 瓦 'tile' and 土 'earthenware'

缾 (str.44) :: 瓶 *píng* 'bottle'

The SHZYcharacter 缾 has the signific 缶 'jar' corresponding to R 瓶 for *píng* 'bottle' which has 瓦 'tile' instead. The former occurs in a S.A. bronze inscription writ-

123 Baoshan Chu manuscripts have 長⿰⿸尸少阝 ~ 長⿸尾少 ~長⿺辶⿸尾少 for the place name Changsha 長沙 (Zeng Xiantong 2005: 61). The Qin Seal form 沙 for 'sand' is analyzed in the Shuowen as a semantic compound: 沙,..从水少, 水少沙見 (11a/552). "the character is composed of 'water' and 'few'. Sand appears when the 'water' is 'scarce'". Perhaps the component {尾 + 少} in the Chu form is an old phonophoric, reduced to 少 in the Qin script.

ten (孟城鉼). (The graph 并 for *bìng* ***beŋ-s** 'combine', which is the phonophoric in this character, derives from 从, two of 人 'person' by adding double horizontal strokes denoting 'binding'). The *Shuowen* registers this structure, only with the positions of the two components reversed, as the regular Qin Seal form while adding 瓶 as an occasional variant (5b/225). The MWD version has the form 垪 with 土 'earthenware' in this textual position. This character form is also found in the Xinyang Chu manuscripts (see CWZ: 778). The Guodian Chu manuscripts have a compound form ⿰土缶 (Qiong 13) with an added signific 土 'earthenware' for *fǒu* 缶 'jar'. We can recognize the SS {缶, 瓦, 土} used interchangeably in the W. S. script for the semantic value 'earthenware'. This 土 is similar in meaning to the above 土 'earth' alternating with 水 'water' for geological terms: if the latter is 'natural earth', the former is 'processed earth'; even so, they belong to separate sets of SS, and thus are functionally distinct significs.

(15) 石 (> 厂) 'stone' and 土 'earth'

⿰石萬 (str.18) and ⿰石⿱萬土 (str.22) :: 厲 *lì* 'dangerous, adversative'

The SHZY character has two variant forms, one with the signific 石 'stone', one with the latter combined with 土 'earth' corresponding to 厲 of R with the signific 厂. As He Linyi says (2003: 3), the graph 厂 is a simplified variant of 石.[124] There is a recognizable semantic connection between these significs, as kinds of 'material' as in e.g., 厲 *lì* 'grindstone'. The same word in the *Zhouyi* means 'dangerous, adversative'. But it is probable that this 土 is secondary to 石, co-occurring with the latter rather than standing alone for the given semantic value: the SS {土, 石} as a compound signific recurs in another SHZY character, ⿸厂⿱兼土. This character is used for the hexagram title *Qian* for which the received version has 謙 instead. This unfamiliar Chu character may be identified as a variant of 磏. The *Shuowen*

124 Xu Shen thought that the former was a distinct classifier: 厂, 山石之厓巖人可處 (9b/446) " 厂 is cliff-cave as in mountain rock; people can dwell in it". Middle Chinese dictionaries give a sound gloss to the 厂 along the line of *xanX* (> modern *hǎn*) with the definition copied from the *Shuowen*, but there is no textual attestation in the early literature of the graph as an independent character that can justify this pronunciation.

enters the Seal form 磏 as 厲石也 "磏 (*lián*) means whetstone" (9b/449). The rendering of the hexagram title as 謙 in the received version, suggesting the word *qiān* 謙 'modest' seems to reflect a later moralistic interpretation. The *Zhouyi* line text simply does not provide enough context for us to infer the lexical meaning of "Qian".

⿸厂⿱兼土 (str.12) :: 謙

SHZY: 初六 ⿸厂⿱兼土君子 甬涉大川 吉
Received: 初六 謙謙君子 用涉大川 吉
Six on the first. QIAN-QIAN, lordling. It is advisable to ford a big river. Auspicious (Hex.15 *Qian*).

SHZY: ...四 亡不⿰禾勿⿱艹貨⿸厂⿱兼土
Received: 六四 无不利撝謙
Six on the fourth. There is nothing unbeneficial leading (?) QIAN (id.).

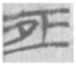
SHZY: 上六 鳴⿸厂⿱兼土 可用行市 征⿰田丰
Received: 上六 鳴謙 利用行師 征邑國
Six on the top: Call out QIAN. It is advisable (SH)/ beneficial (R) to execute a military action. Go on a campaign against the city-[state (R)] (id.).

In the first line the QIAN occurs in a reduplicative binom used as a predicate. The MWD version has 嗛嗛, so SHZY version seems to have failed to duplicate the character. In the second and third lines it is used nominally as an object of the verbs, *huī* 撝 'lead' (?) and *míng* 鳴 'call out'. The character 撝 is also problematic; Lu Deming (*juan* 2/85) suggests to interpret it as *huī* 麾 'lead', while quoting Ma Rong's interpretation as 'leave' (*lí* 離) and Zheng Xuan's 'proclaim' (*xuān* 宣). SHZY has ⿱艹貨 in this textual position, which is related to the corresponding character in R by the EP {化, 為} with the value ***Qʷaj** (Section 5.2.).

(16) 糸 'thread' and 心 'heart'

Words written with the signific 糸 'thread' in the received orthography are in general (i) concrete nouns that denote types of thread, knot, rope and fabric and (ii) verbs that denote activities that involve these objects. Often related to the figurative sense of 'thread' or 'line' and 'bind' or 'link', words that have the meaning 'continuity' or its opposite 'discontinuity' also tend to be written with the same signific. Among some common words in received early texts registered in the *Shuowen* are *jì* 繼 'resume, continue', *shào* 紹 'succeed, continue', *xì* 繫 'bind,

connect', *wéi* 維 'connect', *yì* 繹 'continue', *léi* 纍 'accumulate, connected'; *bì* 縪 'constrain, stop', *chēn* 綝 'stop', *jué* 絕 'discontinue, cease', *jié* 結 'tie, end'. The word *héng* 恆 'ever, constant' through its repeated occurrences appears in two forms in SHZY, one as 亙 and another as 絚.

亙  (str.15) ~ 絚 (str.28) :: 恆 *héng* 'constant'

It seems that the former is a default form while the latter is used especially for the transitive verb usage of the word. In the two sentences below for example, *héng* 恆 is written in the simple form 亙.

> SHZY: 六五貞疾亙不死
> Received: 六五貞疾恆不死
> Six on the fifth. It is a prognostication for an illness. But the person will not *ever* die [from it] (Hex.16 *Yu*).

> SHZY: 初九 孚于蒿 利用亙 亡咎
> Received: 初九 需于郊 利用恆 无咎
> Nine on the first. Waiting in the suburbs, it is beneficial to use *heng* ('constancy'?). There will be no fault.

In the hexagram chapter *Heng* (Hex.32) where *héng* is repeated five times, the transitive verb use of the word is graphically marked by the added signific 糸.

> SHZY: 亙 卿 利 貞 亡 咎
> Received: 恆 亨 无 咎 利 貞 利 有 攸 往
> The HENG. The Xiang sacrificial ceremony [is performed]. It is an augury of benefit. No trouble (SHZY)/ No trouble. It is an augury of benefit. It is beneficial to have a place to go (R) (Hex.32 *Heng*).

> SHZY: 初六 叡(濬) 亙 貞 凶 ...
> Received: 初六 浚恆貞凶 ...
> Six on the first. Make thorough the HENG. It is ascertained disastrous...

> SHZY: 九晶 不絚亓 悳 ....
> Received: 九三 不恆其 德 ...
> Nine on the third. Someone does not *perpetuate* his innate power...

> SHZY: 六五 絚亓 悳...
> Received: 六五 恆其德...
> Six on the fifth. Someone *perpetuates* his innate power...

SHZY: 上六 叡死 貞凶
Received: 上六 振恆 凶
Six on the top. Make thorough the HENG. Ascertained disastrous (SHZY)/ Subdue the HENG. Disastrous (R).

As cited in Chapter 1, the form is registered in the *Shuowen* as a *guwen* contrasting with the Qin Seal form . Although looking very different the Chu and Qin forms are both related to the W. Zhou form:

Chu [絚]   W. Zhou [恒] (恒簋)   Qin [恆] (Qin Seal)

The Chu form has 外 {夕 + 卜} in place of the W. Zhou 月: The graphs 月 (呂鼎) for *yuè* 'moon' and 夕 (盂鼎) for *xī* 'evening' derive from the same graph and are used interchangeably in compound forms. The form 外 for *wài* ***ŋŋʷat-s** for example, has the 夕 but the latter actually represents the pronunciation of *yuè* ***ŋʷat** 月 'moon'. The early form for 外 varies between (外卒鐸) and (靜簋). In the Qin Seal form the original 月 is displaced by a graphically similar form, 舟 (*zhōu* 'boat'). The explanation for the component 卜 in the Chu form is somewhat complicated. The form (Lu 6) normally for *héng* ***ggəŋ** 'constant' is also used for the word *jí* ***gək** 極 'ultimate' in the Guodian Chu manuscripts (CWZ: 759). The W. Zhou form for the latter is 亟 (亟) (毛公鼎) and it is received in the Chu script as (Tang 19). The semantic and phonetic relation between the two words they stand for caused the originally two different graphs, (毛公鼎) and (亙鼎) to assimilate with each other. The 人 combined with 口 in the former, like became undistinguishable with 夕~月, and the 卜, an abbreviated form of 支, came to be added to the latter. The resulting form is , good for both *héng* ***ggəŋ** 'constant' and *jí* ***gək** 極 'ultimate'.

A variant form with 心 comparable with the received character which follows the Qin Seal form also exists in the Chu script. In the Guodian manuscripts, the simple form 死 (Lu 6) and the one with 心, 恳 (Lu1) are both common (CWZ: 759-60). The form 恒 (恒簋) occurs once in a W. Zhou inscription for a person's name. It may be that 心 'mind' and 糸 'thread, line' can be used alternatively when the latter is selected for the abstract meaning '(dis-)contunuity'.

Similarly to the case of *héng*, the word *zhōng* 終 for 'cease' is written in two forms depending on context in SHZY. It is written in the simple form 冬 in the repeated divinatory idioms *zhōng jí* 終吉 "Auspicious in the end" and *zhōng xiōng*

終凶 "Disastrous in the end", or in a compound expression like *zhōng rì* 終日 "all day long", but it is written just once as ⿱冬心 with the added signific 心 when it occurs in a sentence with a subject/agent, *jūn zǐ* 君子 "lordling". The function of the signific 心 here seems to be of the 'cognitive' and 'volitional' kind, indicating 'mental execution'; this graphic modification perhaps indicates a subtle re-interpretation of the word *zhōng* 'conclusion' in this line.

冬 (str.3) ~ ⿱冬心 (str.12) :: *zhōng* 終 'cease'.

SHZY: ⿸厂⿱兼土 卿 君子又⿱冬心
Received: 謙 亨 君子有終
QIAN. The Xiang ceremony [is performed]. The lordling will have a conclusion (Hex.15 *Qian*).

A variant form with 糸 is also attested in Chu manuscripts. In the Guodian manuscripts, the form [⿱冬糸] (Yu-1, 49) is an occasional variant form of [冬] (Cheng 30) (CWZ: 725-26).

5.2 Equivalent phonophorics

Equivalent phonophorics for a given word in excavated or received texts from the W. S. period in almost all cases appear as regional variants. The degree of consistency in the choice of a phonophoric for any given word seems even higher than that of a signific. Both linguistic and non-linguistic factors contribute to this phenomenon, and the two kinds often interfere with each other. Through the forty-eight textual and graphic variations presented in this section, I will demonstrate that the phonophoric variation as seen between the Chu and Qin scripts, or any two regional scripts, generally does *not* reflect graphic innovations or dialect phonology of the respective regions. I will argue instead that those equivalent phonophorics, although appearing in two different Warring State regions, originated in common from an earlier period, to which the Old Chinese phonology belongs.

Two kinds of evidence support this argument. One is that we can simply confirm the early existence of those alternating phonophorics in excavated texts, such as bronze inscriptions of the W. Zhou period. The other kind of evidence comes from phonological and etymological facts. Alternating regional phonophorics are compatible in the Old Chinese. This 'Old Chinese' includes some dia-

chronic developments which are supposed to predate the W.S. period on independent grounds. On the side of etymology, alternation of certain phonophorics in a particular word family is repeated across regions, although regional scripts might differ in which phonophoric stands for which cognate word within the same word family. If the stability of significs in the early Chinese script lies in a given *semantic class* of words, that of phonophorics lies in a given *word-family*.

The subsections of 5.2 are organized by groups of equivalent phonophorics which have some of the above mentioned aspects in common. This grouping is by no means intended to be mutually exclusive, because there cannot be a two-way division for aspects of multiple dimensions. Section 5.2.1 “Phonophorics in the early Chinese orthography” is a kind of default group, whereby alternating phonophorics found in SHZY (Chu) and the received version (Qin) are compatible in the ‘mainstream’ Old Chinese, which can be, for the above mentioned phonological and etymological reasons, supposed to have existed as EPs from an early period, meaning, well before the W.S. period.

Examples gathered under 5.2.2 “Western Zhou and Chu phonophorics” are those cases in which the SHZY/Chu phonophorics are attested in W. Zhou inscriptions but the corresponding received Qin forms are not. Two logical possibilities are that (a) the Qin variants did exist, but we are simply lacking the archaeological findings or that (b) the Qin variants in fact are of late origin. That the Chu and Qin variants are still found compatible in OC cannot prove that (a) is the correct one, because parallel phonological developments can mask actually different chronological layers. This same phenomenon prohibits us from determining that the Qin variants are of late origin. But, these examples at least can serve as direct counter examples to the widespread impression that the Qin script is more conservative and closer to the W. Zhou script than Chu or any other regional script.

5.2.3 “Negative particles” and 5.2.4 “Sound symbolism and phonograms” represent two special classes of EPs, for which the usual phonetic criteria for interchangeability do not apply, because of their lexical properties.

Phonophorics for negative particles with the ***m**- initial can interchange with one another despite differences in both the main vowel and coda. This superficially lenient phonetic compatibility has a strict boundary, viz., a closed set of grammatical function words.

Sound-symbolic onomatopoetic or mimic words which are often alliterating and rhyming disyllabic words are characterized by their etymological obscurity. Those words are often historically and cross-regionally discontinuous and their meanings are often hard to define precisely. The characters which write such words represent sounds without meaning, so we may call them ‘phonograms’ in this sense. The OC pronunciations inferred from the phonophorics thereof are

similar, but often not exactly in the same syllable type. Thus alternating phonophorics in phonograms are not expected to be repeated like those writing lexical words.

5.2.5 “Old Chinese dialect words” presents cases in which alternating phonophorics reflect Old Chinese dialect pronunciations. The phonological alternations observed in these examples are: labial initials alternating with uvular initials, *-**aj** with *-**waj**, *-**u** with *-**aw**, lateral initials with dental stop initials, and consonant ending *-**k** with *-**ʔ**. Some of these dialect phenomena are recorded in the *Fangyan* by Yang Xiong 揚雄 (53 -18 BCE). The EPs representing these pronunciations then evidently did not arise in the same place and the same time. However, the orthographic distinctions in the Chu and Qin regional scripts do not relate themselves to the regional distribution of these dialect features. Rather, the differing dialect pronunciations simply fluctuate between the two. That is, neither Chu nor Qin reflects a certain dialect variant consistently. This suggests that those phonophorics reflect pre-Warring States Old Chinese dialects, which are likely contemporaneous with the ‘mainstream’ OC, and that both Chu and Qin manifest the same inherited orthographic system.

5.2.6 “Etymological relations” illustrate EPs which by virtue of their alternations in corresponding textual positions can improve our understanding of etymological relations in Old Chinese. A phonophoric often stands for two or more cognate words in a word family with or without added signific determinatives. And since different regional scripts may select different significs to distinguish shades of meaning, words that appear written with EP or identical phonophorics in corresponding textual positions often look as if they are distinct but etymologically related words. What we should take away from these cases is a realization that those words we have always known are etymologically related, and that we can better understand the meaning of the etymon through such relations, and thus better understand the text we are reading.

5.2.7 “Phonologically motivated lexical variation” addresses the fact that words in a text can be replaced by phonetically similar words as a result of phonologically driven reinterpretation. These cases, by definition, are not to be distinguished from equivalent phonophorics, an intrinsic feature of the early Chinese orgthography, by phonological criteria. We can only suspect such cases in what seems to be unconventional graphic usages. Incidentally, I find only one example in SHZY which might be of this category. However, further discoveries can always overturn the judgment.

5.2.1 Phonophorics in the early Chinese orthography

(1) 淒 (str.58) :: 濟 *jì* ‘ford’, ‘rescue-relieve’

The SHZY character 淒 corresponding to *jì* 濟 ‘ford’ of R, which is used in two hexagram themes, the *Ji ji* 既濟 ‘already crossed’ (Hex.63) and *Wei ji* 未濟 ‘not yet crossed’ (Hex.64), has the phonophoric 妻 corresponding to 齊. These are equivalent phonophorics for the phonetic value ***Tsij** as can be inferred from the characters for the words *qī* ***ttsʰij** 妻 ‘wife’ and *qí* ***ddzij** 齊 ‘align’. The alternation of these EP is found in a character for a bronze vessel name, the *zī* ***tsij** 齍. This word, used for two types of vessels, the *li* 鬲 and *fangding* 方鼎, is written in a number of variant forms composed of the SS {皿 ‘vessel’, 鼎 ‘tripod’, (sometimes also) 火 ‘fire’} and EP {齊, 妻}.

S 鼎 + Ph 齊: (趠鼎) (甲鼎) (中鼎)

S 皿+ Ph 齊: (仲 X 父鬲)

S 鼎, 火 + Ph 齊: (戍甬鼎)

S 鼎 + Ph 妻: (𥂴𢦏方鼎)

S 皿 + Ph 妻: (猲𥂖鼎) (季𥁰鼎) (白六鼎) (弔鼎)

The variation 皿 ~ 鼎 is repeated in many ritual vessel names. The 火 ‘fire’ which is not as commonly used as the others probably indicates the semantic aspect ‘cooking vessel’ of this word. This vessel name *zī* is used either by itself or as a modifier to *lí* 鬲 or *yí* 彝. The latter is a generic word for all types of ritual vessels:

伯邦父作𪔂鬲. 伯邦父鬲 late W. Zhou, JC 560
Sir Bo Bang made the *zi*[-type] *li*-vessel.

姬苪母作齍鬲. 姬苪母鬲 mid-to-late W. Zhou, JC 546
Mother Nai of Ji [clan] made the *zi*[-type] *li*-vessel.

呂雔姬作齍彝. 呂雔姬鬲 mid to late W. Zhou, JC 636
Lü Chou of Ji [clan] made the *zi*-ritual vessel.

趠用作氒文考父辛寶尊齍 厚趠方鼎 early W. Zhou, JC 2730
Zhuo used [the grant] to make sacrificial *zi*-vessel for his illustrious [deceased] Father Xin.

戲伯作餴齍 戲伯鬲 late W. Zhou, JC 666
Lord Xi made the steamer *zi*-vessel...

盭作寶齍鼎. 盭鼎 early-to-mid W. Zhou, JC 2067
Li made the treasure *zi*-[type] *ding*-vessel.

伯六 x 作祈寶尊盜. 伯六方鼎 early W. Zhou, JC 2337
Bo Liu x made sacrificial treasure ritual *zi*-vessel.

仲 x 父作盜鬲. 仲 ?父鬲 mid W. Zhou, JC 544
Middle Lord Sir x made the *zi*[-type] *li*-vessel.

王賞戍 x 貝二朋用作父乙齍. 戍 x 方鼎 Shang, JC 2694
The king awarded Shu x two double-strings of cowrie shells to use them to make a sacrificial zi-vessel for Father Yi.

用作父辛寶䶒. 䌛𨙸方鼎 early W.Zhou, JC 2725
Use it to make the treasure *zi*-vessel for Father Xin.

季盨作宮伯寶尊䶒. 季盨作宮伯方鼎 early W.Zhou, JC 2333
Ji Xu made the treasure sacrificial *zi*-vessel for Earl Gong.

The graph 妻, as can be seen in the variant (白六鼎), in origin is a signific-phonophoric compound character which in fact contains the Ph 齊 (齊且辛爵). The other components are 又 '(right-) hand' and 女 'female'. Variant forms in which the becomes simplified and changed into a non-analyzable part of the whole graph 妻 appear as early as the W. Zhou period. In the W.S. script, the original Ph is no longer discernable, and this leaves the two graphs 妻 and 齊 distinct but interchangeable phonophorics. Compare the forms of 妻 and 齊 in the W.S. script.

	Qin		Chu manuscripts
妻	(Qin Seal)	(Shuihudi)	(LZ-A, 18)
齊	(Qin Seal)	(Shuihudi)	(Qiong 6)

The early form is now augmented with a double horizontal line at the bottom which balances and gives gravity to the overall shape of the character. This orthographic development appears across regions in the W.S. script.

(2) 頌 :: 輔 *fŭ* 'cheeks'

The SHZY character 頌 corresponds twice to the R 輔 in two different hexagrams, the *Xian* 咸 and *Gen* 艮. The character 輔 is convincingly interpreted as *fŭ* 'cheeks' in both places.[125]

SHZY: 上六 欽 頌夾脂
Received: 上六 咸其輔頰舌
Six on the top. XIAN [its (R)] upper cheeks, lower cheeks and tongue (Hex.31 *Xian*).

SHZY: 六五 艮亓𣪠...
Received: 六五 艮其輔...
Six on the fifth. GEN its cheeks...(Hex.52 *Gen*)

Compare this line with three other lines in the hexagram *Gen*:

SHZY: 艮 亓伓 不 獲亓身...
Received: 艮 其背 不獲其身...
GEN its back. One will not obtain its body.

125 XIAN 咸 is interpreted in the *Tuan* commentary as *gǎn* 感 '(touch to) feel'. The corresponding SHZY character is 欽 whose phonophoric 欠 ***Kəm** in its functional value is compatible with the 咸 ***Kəm** (cf. *xián* ***ggrəm** 咸 'all'). If the SHZY character would be read as 欽 *qīn* ***khəm** 'admire' it would make just as much sense as *gǎn* 'feel' in the context. MWD agrees with SHZY whereas the Fuyang "Zhouyi", contemporaneous with MWD, agrees with the received in this textual position.

SHZY: ... 亓 止...
Received: 初 六 艮 其 趾...
[Six on the first. GEN (R)] its foot...

SHZY: 六 四 艮 亓 躳...
Received: 六 四 艮 其 身 ...
Six on the fourth. GEN its body.

The phonophorics 父 and 甫 of the two corresponding characters ⿰父頁 and 輔 are EP for *__Pa__. The MWD version has 肞 {S 肉 ‘flesh’ + Ph 父}. Lu Deming notes that Yu Fan’s 虞翻 version has the form ⿰面甫 {S 面 ‘face’ + Ph 甫} (*juan*1/97). We can see the alternating SS {面, 肉, 頁 ‘head’} and EP {父, 甫} in these variants for the word *fǔ* ***b(r)aʔ*** ‘cheeks’.

Xu Shen said: 甫, 男子之美偁也从用父父亦聲 (3b/128) “*fu* is an honorific reference to a man. The character is composed of 用 and 父, the latter is also phonetic”. The word “甫” referred to here is *fù* 父 ‘sir’, which is the same etymological word as *fù* ‘father’. The componential structure as explained in the *Shuowen* is clearly visible in the W. Zhou form: 甫 (甫丁爵). Compare 父 (師旂鼎). But the apparent phonetic 父 in the 甫 came about in the early W. Zhou period as a result of phonetic justification of an earlier pictograph which only remotely resembles the shape of the graph 父. The early form of 甫 attested in Shang and some early Zhou inscriptions appears as (JC 5395). Compare the OBI form .[126] Luo Zhenyu speculated that this was a pictograph initially created to represent, (or in the traditional term, the *chuwen* 初文 for) *fǔ* 圃 ‘garden, a small patch of land for planting vegetables’ (Chen Chusheng 2004: 400). The top part of the graph was adjusted to appear as 父 and the bottom that looked like 田 ‘field’ was alterted to appear as 用. The component that Xu Shen saw as 用 ‘use’ is historically incorrect and lacks a semantic fuction. The 父 phonophoric in the graph 甫 becomes less intelligible in the W.S. script and eventually loses its identity in clericization.

In the received version it appears as if the character 輔 which normally stands for *fǔ* ***p(r)aʔ*** ‘assist’ is borrowed for the homophonous word. This ‘loan’ character appears to have eventually displaced the characters with such “reasonable” significs as those in the excavated versions. But re-examine the first line cited. The word *jiá* ***kkap** 夾 ~ 頰 ‘cheeks’ which immediately follows *fǔ* ⿰父頁 ~ 輔 has a

126 *Jiagu wen bian*, 153.

graphic/phonetic relation with *jiā* ***kkrap** 夾 'serve, assistant', which in turn is synonymous with *fŭ* 'assist'. What happened here is not really a phonetic loan but rather a word-play:

First reading	Second reading (pun)
fŭ 頄 ~ 輔 'high cheeks'	*fŭ* 輔 'assist'
jiá 夾 ~ 頬 'low cheeks'	*jiā* 夾 'serve'

Also, if the repeated phonetic relation between the word for the body part and for the word meaning 'assist, support' is not accidental, it means that the two words in each pair are etymologically related. The use of the character 輔 which stands for *fŭ* 'assist' for *fŭ* 'cheeks' is not a loan, but simply is a use of the character for one and the same etymon, which also happens to make a good pun in the *Zhouyi* line text.

(3) 余 (str.14) :: 豫 *yù* 'relaxed'

The character 余 which normally stands for *yú* ***la** 'I' in the early script as well as in received texts occurs in the positions for the hexagram theme YU 豫 (Hex.16). This character stands for *yù* ***la-s** 'relaxed' in the received literature, but the meaning of YU in the *Zhouyi* is obscure:

SHZY: 余 利建矦行市
Received: 豫 利建侯行師
The YU. It is beneficial to establish a fief and carry out an expedition.

SHZY: 初六 鳴余 凶
Received: 初六 鳴豫 凶
Six on the first. Call out the YU. Disastrous.

SHZY: 六晶 可余悔 遟又悔
Received: 六三 盱豫悔 遲有悔
Six on the third. The YU is enabled (SH)./ Brightening up the YU (R). Regretful. If late, there will be regrets.

SHZY: 九四 猷余 大又㝵...
Received: 九四 由豫 大有得...
Six on the fourth. Follow the YU. One will have a great gain.

SHZY: 上 六 冥(?) 余 成 又 愈 亡 咎
Received: 上 六 冥 豫 成 有 渝 无 咎
Six on the top. Darkening YU. Achievements will accumulate. There is no fault.

Speculative opinions abound in commentaries in such cases as this. Lu Deming in his *Jingdian Shiwen*, for example, cites Ma Rong 馬融 who says that YU 豫 means ‘relaxed and content’ (*yú lè* 豫樂). The theme is interpreted as ‘(mentally) slacken’ (*dài* 怠) in the *Za gua* commentary while it is said to mean ‘satiated’ (> ‘dislike’) (*yàn* 厭) in the *Erya* (“Shigu” chapter) (Gao Heng 1947 [1973]: 59).

Meanwhile, the corresponding graphs 余 of SHZY and 予 in 豫 of R are EP for the value ***La**. The latter occurs in the *Shangshu* “Jinteng” chapter, where it is interpreted as ‘comfortable’, a variant of *shū* ***hla** 舒 ‘comfortable’: 王有疾, 弗豫 “The king became sick and was not comfortable”. Lu Deming notes to this line 豫本又作杼 (*juan* 3/179) “the character 豫 was originally also written 杼”. Xu Shen cites the same *Shangshu* line, but with the form 悆 instead: 有疾不悆 (10b/509) “(He) was sick and uncomfortable”. The character 舒 is composed of two phonophorics, 舍 and 予. The former, used in the received script for *shè* ***hla-s** 舍 ‘lodging’, goes back to the same origin with the graph 余 in the early script. In the W. Zhou script, 余 *yú* ‘I’ was written (何尊). This graph evolves to the form (秦公簋) with two symmetrical slanting strokes added some time in the late S.A. period (Chen Zhaorong 2003: 207). In the W.S. script, some auxiliary elements, such as the leftward slanting stroke under the vertical center stroke and the 口 were further added. Note (欒書缶) and (中山王鼎). This extra slanting stroke was discussed in Section 3.1 as a type of ‘decorative strokes’, and the element 口, an optional and semantically empty component in 5.1. Forms varying by the presence or absence of these presumably non-functional, auxiliary graphic elements in the W.S. script sometimes become specialized for distinct words later. The graphs 小 and 少 for example, as mentioned in 3.1, were interchangeable for both *xiǎo* ‘of small size’ and *shǎo* ‘of small quantity’ in the W.S. script.

This EP {余, 予} is repeated again for the word *xù* ***zlla** 敘 ‘arrange in order, rank’, which we can identify with the character 序 for ‘sequence’ with the same pronunciation. This word appears in the *Zhouyi*, the SHZY character for which is composed of 余 and 予.

(4) 舒 (str.49) :: 序 *xù* ‘sequence’

SHZY: ...言 又 舒 悔 亡.
Received: ...言 有 序 悔 亡.
The speech was well ordered. Regret is gone (Hex.52 *Gen*).

The EP alternating in the textual variants 余 (SHZY) and 豫 (R) makes it possible that these are variant forms intended for the same word. While the Fuyang "Zhouyi" has the form same as the one in R, the MWD version on the other hand has *yú* 餘 'excess' which is still another character that shares the phonophoric 余 with the SHZY character. All these three variants are related by the repeated 余 ~ 予 alternation, but their differing significs do not seem to be synonymous. The original hexagram *name* Yu itself did not change in the course of transmission, but its meaning seems to have undergone many reinterpretations.

(5) 酓 (str.50) :: 飲 *yǐn* 'drink'

The SHZY character for *yǐn* ***qəmʔ** 'drink' is composed of S 酉 '*you*-wine container' and Ph 今 while the 飲 of R is composed of S 食 'eat' and Ph 欠. The corresponding components are SS and EP. Compare first 今 *jīn* ***kəm** 'present time'. The value of 欠 fluctuates between ***Kəm** (the Qin 侵 rhyme group) and ***Kam** (the Tan 談 group). Note for example, *qīn* *$\mathbf{k^h}$**əm** 欽 'admire' and *xīn* *$\mathbf{q^h}$**əm** 歆 'odor', but *qiàn* *$\mathbf{k^h}$**am-s** 欠 'owe', *qiàn* ***kk**$\mathbf{^h}$**amʔ** 歉 'lacking', *kǎn* ***kk**$\mathbf{^h}$**amʔ** 坎 (var. 埳, 欿) 'pit-fall' (related to *xiàn* ***N-kkram-s** 陷 'pit-fall').[127]

The *Shuowen* Seal form for *yǐn* is 㱃, with the S 酉 and, and both of the two EP 今 and 欠. This structure is identical with the W. Zhou form 㱃 (善夫山鼎) and is also found in Zhongshan 㱃 (中山王壺). The co-occurrence of the EP {欠, 今} as seen in the early script form 㱃 is repeated in another character. SHZY has the form 欽 (str.41) which is composed of {S 玉 + Ph 欠, 今} and stands for the word *hán* ***ggəm** 含 'hold (in the mouth)'. The component 玉 'jade' is explained by the word *hàn* ***ggəm-s** 'jade or pearl put in the mouth of the dead', a morphological derivative of *hán*, for which a variant form 琀 exists in the received orthography.

(6) 繙 (str.5) :: 鞶 *pán* 'waist band'

The significs 糸 'fabric' of SHZY 繙 and 革 'raw-hide' of R 鞶 seem to be natural alternatives for such a word like 'waist band'. The word that immediately follows is 帶 *dài* 'belt' written as 縹 with an added S 糸 'fabric' in SHZY. Based on the

127 The characters with the phonophoric 欠 are spread out in a few different entries in GSR, e.g., #651 (今 ***Kəm** series), #652 (金 ***Kəm** series) and #624 (欠 series with both ***Kəm** and ***Kam)**. In the first two series, the 欠 is a second phonophoric.

graphic parallelism between the corresponding 緒紼 (SH) and 鞶帶 (R), it is reasonable to assume that the component 畔 in the Chu character 緒 and the 般 in the corresponding received character 鞶 are EP for *__Pan__. Note that *pán* ***bban** 般 'turn round' and *pán* ***bban** 鞶 'waist band' are probably one and the same etymon. In the phonetic series of 半 (GSR #181) we find *pàn* ***pp^{h}an-s** 泮 'semi-circular pool, shore', which is clearly related to the *pán* 般 word family. This confirms that the two graphs 半 and 般 existed in the early script as equivalent phonophorics, which means that they were inclined to be used alternatively for the same words or cognate words. The characters in the 半 phonophoric series otherwise generally represent a word family of the root meaning 'divide (in half)'. For example, *bàn* ***ppan-s** 半 'half, halve', *pàn* ***pp^{h}an-s** 判 'determine', *pàn* ***bban-s** (or ***N-ppan-s**) 畔 'land division'.

(7) 蒿 (str.2) :: *jiāo* 郊 'suburb'

The variation between 蒿 and 郊 for *jiāo* 'suburb' involves both SS and EP. The difference in the significs, 艸 'vegetation' *vs.* 阝(邑) 'town', is repeated in the variation between the MWD and the R versions, viz., MWD 茭 *vs.* R 郊 in the same textual position (Hex.5 *Xu*). As for the phonophoric variation 高 ~ 交 (Cf. *gāo* ***kkaw** 高 'high' and *jiāo* ***kkraw** 交 'exchange'), Fuyang "Zhouyi" has the form 鄗 in two places corresponding to 郊 of R (Hex. 9 *Xiao xu* and Hex.13 *Tong ren*). We have the variants 鄗 (Fuyang) ~ 蒿 (SHZY) ~ 郊 (R) ~ 茭 (MWD) in the four *Zhouyi* versions resulting from the SS {艸, 阝} and EP {高, 交} in the early script.

(8) 蒦 (str.12) :: *huī* 撝 'lead'

Xu Shen in the *Shuowen* entry for the Qin Seal form 貨 for *huò* ***qq^{wh}aj-s** 'material (wealth)' cites 貨 as an archaic form (貨, 財也, 从貝化聲. 貨, 資也, 从貝為聲. 或曰此古貨字; 6b/279). Duan Yucai to this entry notes that the variation 貨 ~ 貨 is parallel with the interchangeability of the characters 訛 and 譌 [for *é* ***ŋŋ^{w}aj** 'altered, error']. This shows EP{為, 化} for ***Q^{w}aj**: compare *wéi* ***G^{w}aj** 為 'conduct' and *huà* ***qq^{wh}raj-s** 化 'alter'. Both 貨 (Yu-3, 60) and 貨 (LZ-A, 35) are attested for the word *huò* in the Guodian Chu manuscripts (CWZ: 380-81). The textual correspondence between 蒦 (SHZY) and 撝 (R) appears to show another case of the EP{為, 化}. But the difference in the signific in this case is hard to explain.

The word *huī* 撝 in general has two meanings 'lead' and 'tear' but its meaning in the *Zhouyi* is obscure:

SHZY: ... 四 亡不秎蒦壓
Received: 六四 无不利撝謙
There is no loss in leading (?) modesty. (Hex.15 *Qian*)

It is possible that the alternating significs 艸 'grass' and 手 'hand', which are semantically unrelated resulted from a reinterpretation.

(9) 躳 (str.49) :: *gōng* 躬 'oneself'

The SHZY 躳 has the phonophric 吕 (Cf. *gōng* ***kuŋ** 宫 'palace') alternating with 弓 (Cf. *gōng* ***kuŋ** 弓 'bow') in the received character 躬 for *gōng* ***kuŋ** 'oneself'. Xu Shen records the form 躳 as the standard Qin Seal form while adding the form 躬 as a popular variant. Likewise we find the form 竆 (Cheng 14) in the Seal script and the Chu script for the word *qióng* 竆 'ultimate'. This suggests an EP {吕, 弓} for ***Kuŋ**. The MWD version has the form 躳, with the Ph 宫. The Fuyang "Zhouyi" has two variant forms, 躬 and 躳 for the same word.

This EP also recurs for a different word: 芎 and 营 for *kōng* 'plant name': "Sima Xiangru says that the 营 has [in another variant the phonophoric] 弓" (芎, 司馬相如說营从弓; 1b/25).[128]

(10) 吝 (str.57) :: 鄰 *lín* 'neighbor'

SHZY 吝 corresponding to the R 鄰 for *lín* ***r[i/ə]n** 'neighbor' has the phonophoric 文.

SHZY: 六五 不賗以亓吝秎用戠伐 亡不秎
Received: 六五 不富以其鄰利用侵伐 无不 利
Six on the fifth. One will not increase wealth by his neighbor. It is beneficial to take an action to invade and defeat them. There is nothing unbeneficial (Hex.15 *Qian*).

The Zhongshan corpus has 文 for the same word, identical with the Chu form, but without the non-functional 口 under 文. This form also appears in the Mawangdui "Laozi B" manuscript. The form 粦 (尹姞鼎) on the other hand, appears once

128 This example is cited by Gao Heng (1989 [1997]: 9).

in a W. Zhou inscription as a word interpreted as *lín* ***r[i/ə]n** 瞵 ‘have clear vision’ (Chen 2004: 915). Note that the received Qin script has the form 吝 with Ph 文, which stands for *lìn* ***r[i/ə] n-s** ‘stingy’. The EP{文, 粦} pointing to ***m-rən** type syllable seems to be of early origin. Based on this EP relation, the word *wén* < MC *mjun* 文 ‘pattern’ should be reconstructed with the root initial ***r-** like ***m-rən**. Also, this EP is a case of irregular contact between ***-ən** and ***-in**. It may be due to an Old Chinese dialect where the two merged, but it is hard to pin down the region.[129]

(11) 𤆎 (str.56) :: 災 *zāi* ‘natural disaster’

The SHZY character for *zāi* ***ttsə** 災 contains the Ph 才 (str.56) ***TSə** (Cf. 才 *zài* ***ddzəʔ** ‘located’, now written 在) . Xu Shen gives the Seal form 烖 for the same word, consisting of S 火 ‘fire’ and Ph 𢦏 (天火曰烖 10a/484 “wild fire is called *zai*”). This character is sometimes written 灾 with the Ph 𢦏 displaced by the component 宀 which usually functions as a signific meaning ‘place’. It is not uncommon for an original phonophoric to be replaced by a signific or a graphically similar component, but in this case, the 宀 might actually be an alternative phonophoric: Compare *zǎi* ***ttsəʔ** 宰 ‘minister’. This form occurs in a Chu manuscript (See CWZ: 455). The form 災, according to Xu Shen is a *Zhouwen* and the form 𤆎 a *guwen*.

5.2.2 Western Zhou and Chu phonophorics

(12) 卣 (卣) (str.1) :: 攸 *yōu* ‘object relativization marker’

The the object relativization marker *yōu* ***lu** 攸 is written as 卣 (Cf. *yǒu* ***luʔ** 卣 ‘a type of vessel’) in SHZY, which has the same phonetic functional value as the former. As explained in the *Erya* (“Shiyan”) this word is functionally equivalent to *suǒ* 所. The occurrences of *yōu* are concentrated in the three early Chinese texts, the *Zhouyi*, *Shangshu* and *Shijing*, thus it appears to be a word of the early

129 Another case of the ***-ən** ~ ***-in** alternation is 昬 (variant of 昏) standing for *hūn* ***hmmən** ‘dusk’, and also for *wén* ***mən** 聞 ‘hear’. This character has the Ph 民 standing for *mín* ***min** ‘citizen’

phase of Old Chinese. The word *yōu* is practically displaced by *suǒ* in W.S. texts (Liao Mingchun 2001: 221-22). The *Zhouyi* has both *yōu* and *suǒ*; SHZY and the received version agree on the choice between the two in all cases.

SHZY: 六晶勿用取女見金夫不又躳亡卣秎
Received: 六三勿用取女見金夫不有躬 无攸利
Six on the third. Do not take a wife. One will see money, but the husband will lose his life.[130] There is nothing to benefit from (Hex.4 *Meng*).

SHZY: ...亓非逘又禕 不利又卣迬
Received: ...其匪正有眚 不利有攸往
If they do not return (SHZY)/ act appropriately (R), there will be a disaster. Not beneficial. There is a place to go (Hex.25 *Wu wang*).

In W. Zhou bronze inscriptions, the form 逌 (JC 2838), with the phonophoric 卣 is used for the same grammatical function (Chen Chusheng 2004: 501).[131]

允哉顯唯敬德亡逌違 — mid W. Zhou, JC 4341
How trustworthy and brilliant he is! It is due to his respectable virtue that there is nothing that [he would] violate.

余無逌具寇正 — mid W. Zhou, JC 2838
I have nothing [further] to prepare to carry out the strike and expedition.

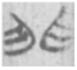
(13) 䎽 (str.38) :: 聞 *wén* 'hear'

The SHZY character 䎽, consisting of {S 耳 'ear' + Ph 昏}, is a common Warring States form corresponding to the character 聞 (Shuihudi) of the Qin script for the word *wén* 'hear'. The form in the Zhongshan Wang Cuo corpus has the same compositional structure as the Chu form. The *Shuowen* records 䎽 as a *guwen* variant. So the EP {昏, 門} for *wén* existed as regional variants as of the late W.S. period. As with the Qin variant 聞 in the received literature, the form 昏 in Chu manuscripts, sometimes without 耳 'ear', is used for both *wén* ***mən** 聞 'hear' and *wèn* ***mən-s** 問 'be known (i.e., be heard), ask (i.e., cause to be heard'), with

130 I follow Gao Heng (1947 [1973]: 19) for the interpretation of this line.
131 Chen Chusheng transcribes this inscription form as 逌 , i.e., 卣 + 辶, but 辶, which is the combination of 彳 and 止, is clearly different from the one in the bronze form. The latter resembles the component in SHZY form (str.42) ~ (str.47) for *nǎi* 廼. So by analogy, I transcribe as 逌.

the *-s suffix in the latter giving ‘outer-directed’ meaning. Both of the graphs 昏 and 門 appear in SHZY used as single component characters, and their OC pronunciations are different only in voicing.

昏 (str.44) *hūn* < *xwon* < ***hmmən** ‘marriage’ (variant of 婚)

門  (str.16) *mén* < *mwon* < ***mmən** ‘door’

Their MC pronunciations are quite different, but from the perspective of OC the 昏 ~ 門 alternation is not strange. So we cannot be certain whether a sound change such as ***hm**- > *x*(*w*)- in the W.S. period or specifically in the Qin dialect could have motivated the phonophoric variation.

Neither the Common Warring States form 䎽 nor the Qin form 聞 is attested in pre-Warring States inscription texts. We find instead the following forms for *wén* ‘hear’ in early-to-mid W. Zhou bronze inscriptions:

W. Zhou (利簋) (盂鼎) Compare W.S. (中山王鼎)

The W. Zhou form has a graphic element that appears to be a depiction of a “sitting man” or perhaps a “man listening” combined with the signific 耳 ‘ear’. It seems that this early pictograph was replaced later by the Ph 昏 ***Mən**, which is somewhat similar to the original graph by phonetic justification. With 䎽 being explained as a case of ‘historically incorrect’ graphic evolution from the W. Zhou form, the Qin form 聞 may for its part be explained as an alternative to both the W. Zhou and Common Warring States forms in which the Ph 門 ***Mən** takes the place of the early graph and of the new Ph 昏 for the same phonetic functional value. Although the 昏 derives directly from the W. Zhou pictograph shown above and the 門 does not, we cannot assume that the latter arose significantly later than the former, since both of these are effective phonophorics for *wén* /*wèn* in OC.

(14) 䖑 (str.37) :: 且 *qiě* ‘further’, ‘be about to’

SHZY has the compound form 䖑 writing the word *qiě* 且.

SHZY: 六 晶 䖑 至 寇 至
Received: 六 三 負 且 乘 致 寇 至 貞 吝
They carry [goods] on the back and then load them causing robbers to arrive. [Ascertained adversative. (R)] (Hex.40 *Jie*).

The form 且 is regularly used for *zǔ* 祖 ‘ancestor’ in W. Zhou inscriptions. For example, 交乍(作)且(祖)乙寶遵彝 “Jiao made for Grandfather Yi the treasure ritual vessel” (early W. Zhou, JC 5321).[132] An example of 䖑 (JC 261) *qiě* is found in a S.A. Chu bronze inscription:

王孫遺者擇其吉金自作龢鍾中翰䖑揚元鳴孔皇 late S.A., JC 261
The grandson of the king, Yizhe selected the finest metal and made for himself this harmonizing bell. When it is struck, (the resonance) is high *and further* rising (rises high). Its resonance is supreme, greatly felicitous and perfectly achieved...

The form (JC 5420) in W. Zhou inscriptions is often used at the beginning of a sentence. While it is generally interpreted as an exclamatory word, it is not impossible to interpret it as the same word as *qiě* 且 but occurring in a different syntactic position.

䖑淮尸(夷)敢伐内國 mid W. Zhou, JC 5420
***Tsa**! (Possibly meaning ‘Furthermore, Now, Behold’), the barbarians of the Huai River dared to attack the inner states.

䖑東尸(夷)大反(叛)伯懋父以殷八師征東尸(夷) early W. Zhou, JC 4238
***Tsa**! (same interpretation as above), the Eastern barbarians greatly rebelled. Sir Mao, the Earl, used the Eight Armies of the Yin to campaign against the Eastern barbarians.

The following line from the *Shangshu* appearing in a similar context as these inscription texts has been suggested to have the same exclamatory word (Zhang Zhenlin 1982: 292). In this line, the exclamation is in an alliterating binom.

132 The compound 祖 (龢鎛) for the same word starts to appear in the W. Zhou period and becomes more common than the single component form in the W.S. script.

徂兹淮夷徐戎並興 *Shangshu*, “Fei shi 費誓”
***Tsa-Tsə**! The Huai, Yi, Xu and Rong barbarians are rebelling all at the same time.

Since *qiě* is a grammatical function word, the character 䖒 should have been adopted from a different, non-function word for which the form is originally composed. Xu Shen defines the Seal form 䖒 as ‘snatch’. The received character 摣 for *zhā* ***ttsra** ‘snatch’ seems to be a variant of 䖒 via the SS {手, 又}. This word is found in inscription texts (Chen Chusheng 2004: 320): 奪䖒行道 (late W. Zhou, JC 4469) “Seize and snatch their roads and passages”. If the above mentioned exclamatory word “***Tsa**” is the same word as *qiě* 且, then the structure of the early character 䖒 was preserved in the Chu script, but it became simplified to 且 in the Qin script.

(15) (str.8) :: 尸 *shī* ‘corpse’

The SHZY character for *shī* ***hlij** 尸 ‘corpse’ has three components, 歹 ‘remains’, 尸 ‘corpse’ (***Lij)** and 示 ‘ritual’. The SHZY editor transcribed it as 㱧; it can be transcribed alternatively as �countless {S and Ph 死 ‘die’ (> ‘corpse’) ***Lij** + S 示}. Compare 死 (歺人) (str.15) for *sǐ* ‘die’, which is composed of 歹 and 人 ‘person’; the latter is interchangeable with the 尸 ‘(dead) body’ in the early script.

The single component character 尸 (JC 2740), now used for *shī* 尸 ‘corpse’ is used most commonly for the word *yí* 夷 ‘barbarian’ in W. Zhou bronze inscriptions.[133]

唯王伐東尸 early W. Zhou, JC 2740
It was when the king defeated the eastern barbarians.

唯伯屖父以成師即東命戍南尸 mid W. Zhou, JC 5425
It was when Sir Chi (?), the Earl, thereby organized a troop and reached the eastern region. He commanded to guard off the southern barbarians.

南尸東尸具見 late W. Zhou, JC 260
The southern barbarians and eastern barbarians all appeared [i.e., made a court appearance].

133 The graph 夷 (柳鼎) in bronze inscriptions appears only in person’s names.

王令𢦏曰 𠭯淮尸敢伐内國 mid W. Zhou, JC 5419
The King summoned Dong (?) and said: "***Tsa**! The barbarians of the Huai River dared to attack the inner states".

(16) (str.51) :: 夷 *yí* 'barbarian'

In the W.S. script, the form 𡰣 (str.51) with double horizontal strokes added to the 尸 came to be commonly used along with the latter for the same word. It occurs once in SHZY corresponding to R 夷.

SHZY: ...日 中 見 㪷 遇 亓 𡰣 宔 吉
Received: ...日 中 見 斗 遇 其 夷 主 吉
They observe the Big Dipper in the middle of the day. They encounter the chief (?) of the barbarians. Auspicious (Hex.55 *Feng*).

We can thus reconstruct the phonophoric series of 尸 and the 夷 in the same syllable type ***Lij**. The phonophoric series of *dì* 弟 (str.8) 'younger brother' which is graphically related to 夷 contains the MC initials *d-*, *dr-* and *th-* conspicuously missing *t-* (GSR #591). This also tallies well with our textual evidence. Fuyang "Zhouyi" has 夷 corresponding to 遟 (str.14) (SHZY)/ 遲 (R) for *chí* < *drjij* < ***lrij** 'tardy'. It seems that 夷 and 尸 became EP at least by the late W.S. period and their alternation survived into the the early Western Han script.

SHZY: ... 遟 又 悔
Received: ... 遲 有 悔
FYZY: ... 夷 有 𣫭[134]
If late, there will be regrets. (Hex.16 *Yu*)

To summarize the EP/phonophoric series: 𣧂 (SHZY) ~ 尸 (R) *shī* < *syij* < ***hlij** 'corpse' :: 𡰣 (SHZY) ~ 夷 (R) *yí* < *yij* < ***lij** 'barbarian' , 夷 (Fuyang) *chí* < *drjij* < ***lrij** 'tardy' :: 弟 *dì* < *dejX* < ***llij?** 'younger brother'.

(17) 𡧯 (str.53) :: 次 *cì* 'military camp'

The SHZY character 𡧯 corresponds to R 次 for *cì* ***tsʰij-s** 'military camp' three times.

134 In Fuyang "Zhouyi" the graph 𣫭 with 卜 'divine' regularly takes the place of 悔. This seems to be a graphic "coinage" for the word used as a divinatory idiom in the *Zhouyi*.

SHZY: 六 四 𠂔 左 ⿱宀𠂔 亡 咎
Received: 六 四 師 左 次 无 咎
Six on the fourth. Lead the Camp on the Left. There is no fault. (Hex.7 *Shi*)

SHZY: 六 二 ⿺辶旅 既 ⿱宀𠂔 褱 亓 㳄 ...
Received: 六 二 旅 即 次 懷 其 資 ...
Six on the second. The caravan reaches the camp. They hold on to their resources. (Hex.56 *Lü*)

SHZY: 九 晶 ⿺辶旅 焚 亓 ⿱宀𠂔 喪 亓 僮 ⿰亻茞 貞...
Received: 九 三 旅 焚 其 次 喪 其 童 僕 ... (Hex.56 *Lü*)
Six on the third. The caravan set fire to the camp. It is an augury of losing their young male servants (SH)/ They lose their young male servants (R).

The use of the phonophoric 𠂔 ***Tsij** (Cf. *zǐ* ***tsij?** 姊 ‘elder sister’) for the same word is attested in the W. Zhou character ⿰𠂤𠂔 (兮甲盤) (Chen Wei 2002):

毋敢不即⿰𠂤𠂔即𠂔... late W. Zhou, JC 10174
They [i.e., the Huai barbarians] should dare not approach [our] camps or troops.[135]

The alternation of the W. Zhou ⿰𠂤𠂔 and SHZY ⿱宀𠂔 seems to be based on the SS {𠂤 ‘mound, location’, 宀 ‘roof, place’}.[136]

The received 次 has 欠, which generally stands for ***Kam** type words (Cf. *qiàn* ***kʰam-s** 欠 ‘owe’). But note, in the second line cited above, we find [㳄] corresponding to *zī* ***tsij** 資 ‘asset’. This suggests that the graph 欠 once had a second pronunciation of the syllable type ***Tsij**.

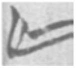
Xu Shen analyzes the Qin Seal form 次 as {S 欠 + Ph 二}: 次,不前不精也. 从欠二聲; 8b/413 “*cì*, not foremost and not essential, (i.e., secondary), it is composed of 欠 and 二, and the latter is also the phonetic. If *èr* ***nij-s** and *cì* are etymologically related, as suggested by Xu Shen then, the latter may be reconstructed as ***s-hnij-s** (> ***s-thij-s** > ***tshij-s**). (Baxter 1992, Baxter-Sagart 2011)

The Shuihudi Qin manuscripts have 次 with a component resembling 二 just like Xu Shen said. But this may be due to a re-analysis of the 水 (氵), in the attempt to justify the graphic composition of this character for the word *cì* ‘secondary’, because the 欠 no longer made sense as a phonophoric.

135 The double negatives here, *wú* 毋 ‘should not’ collocated with *bù* 不 ‘not’, although logically requiring an affirmative interpretation, indicates in fact a negative sense, perhaps emphatic, based on the context.

136 The *Shuowen* defines 𠂤 as 小𨸏 (> 阜, 阝) “small mound” (14b/731). If Xu Shen is right in semantically relating the graphs 𠂤 and 𨸏, then the former would make a synonymous signific of 宀 ‘place’.

5.2.3 Negative particles

(18) 亡  (str.25) :: 无 for *wú* ***m(r)a** 無 'not have, not exist'

The character 亡 which normally stands for *wáng* ***maŋ** 'perish, gone' is used for the word *wú* ***m(r)a** 無 'not have, not exist' throughout the SHZY text. The form 无 used in the received version is recorded in the *Shuowen* as a *qizi* 奇字 "odd [*guwen*] variant" of 無 (12b/634).[137] This character seems to have originated in the late W.S. period. It does not appear in Eastern Zhou bronze inscriptions, but is found in the Shuihudi Qin clerical script, written , alternating with the standard form 無 .

The replacement of 無 by 亡 is well known from received early texts as well as bronze inscription texts.[138] The alternation also occurs in compound characters. The *Shuowen* records a *guwen* variant 辶亡 corresponding to the Seal form 撫 for *fŭ* ***N-paʔ** 'help'. The fact that the graph 亡 substitutes for 無 but not the reverse also suggests that the graphic simplicity of 亡 in comparison to 無 was a factor.[139]

In this case of ***maŋ** ~ ***m**(**r**)**a** alternation, the two words share the same initial consonant and main vowel, so it would appear that a morphological derivation by suffix *-**ŋ** may be involved. However, a clear example of the same phonophoric used for words that are different as *-**aŋ** versus *-**a** is hardly found except for this very pair. If a suffix *-**ŋ** ever existed, it would have ceased to be productive before the invention of the writing system as there is no clear evidence in the early script that it was recognized as a morpheme, i.e., an analyzable unit of sound with meaning.[140] On the other hand, there are several more pairs of characters for negative particles that are used interchangeably as will be shown below. In a bigger picture, the ***maŋ** ~ ***m(r)a** alternation fits in the general interchangeability of forms for negative particles which share the initial ***m-**. As will be illustrated below, there are two more characters in SHZY that write two or more distinct negative particles: 母 (variant of 毋), for (i) *wú* ***ma** 毋 'should not', (ii) *wù* ***mət** 勿 'should not', and probably, (iii) *wèi* ***mət-s** 未 'not yet'; 勿 for (i) *wù* ***mət** 勿 'should not', and (ii) *wú* ***m**(**r**)**a** 無 'not have, not exist'. It is possible that all these

137 奇字即古文而異者也 "*qizi* refers to unusual *guwen* forms" ("Postface", 15a/761).
138 Xu Dan (2004) suggests that the use of 無 for *wú* did not begin until the late W.S. period.
139 The graph 辶亡 (Xing 34) in the Guodian manuscripts is used for the word *wŭ* ***maʔ** 舞 'dance' (CWZ: 676).
140 See Pulleyblank (1962: 233) for a presentation of a douzen pairs of semantically related lexical pairs with the alternation of *-**a** (F. K. Li's *-**ag**, Pulleyblank's [1962] *-**aĥ**) and *-**aŋ**.

words are eventually related by a morphophonemic alternation between the nuclear vowels *-**a**- and *-**ə**- and the suffixes ***-t** and ***-ŋ**.[141] But it is significant that graphic alternations despite differences in the main vowel and coda are restricted to these few negative particles. Thus it is doubtful that the speakers of Old Chinese who were also the users of the early script at this stage would have recognized the etymological relation among these words more precisely than ***m-** as a ‘negative (sub-syllabic) word’. In other words, the interchangeability of these graphs for words which would otherwise disqualify for equivalent phonophorics seems to have applied to the negative particles as a closed set of grammatical words.

(19) 母 (str.14) :: *wù* ***mət** 勿 ‘should not’

The SHZY character 母 corresponds once to *wù* ***mət** 勿 ‘should not’ in R as a prohibitive negative particle.

SHZY: ... 母頪 堋 欲 亶
Received: ... 勿疑 朋 盍 簪
Do not doubt a friend who wants to go off (SH)/ Do not doubt a friend who is talkative and speaks ill of you (R) (Hex.16 *Yu*).[142]

This 母 is a variant of 毋 (Xing 60) which normally stands for *wú* ***ma** ‘should not’. This rebus usage of the graph 毋 ~ 母, originally for ***mməʔ** ‘mother’ might have to do with a morphophonemic variation, such as ***mə** ~ ***ma** as suggested by Pulleyblank (1978: 131), who supposes that the phonetic form ***mə** which was the basis for borrowing the form 母 later became lost, leaving ***ma** alone to be associated with the character. This textual variation 母 ~ 勿 then seems at first to be an alternation of the two synonymous prohibitive negatives, *wú* ***ma** 母 (var. 毋) and *wù* ***mət** 勿. But the SHZY 母 alternates with another negative word of the syllable type ***mət** in R, viz., *wèi* ***mət-s** 未 ‘not yet’. This suggests that the graph 母 in the early script represents the pronunciation ***mət**(**-s**) as well as ***ma** when used for a negative particle:

(20) (str.44) :: *wèi* ***mət-s** 未 ‘not yet’

141 See Pulleyblank (1978) for a proposal of an emphatic negative suffix *-**t**.
142 The interpretation of this line of R follows Gao Heng (1947 [1973]: 61).

SHZY: 汬 改邑不改汬 亡喪亡𠭁 䢋 坙 汬汬气至亦母 汬 ...
Received: 井 改邑不改井 无喪无得 往 來井井 汔至亦未繘 井 ...
The *Well*. They change the town, but they leave the well (in it) unchanged. There is no loss and there is no gain. People frequent the well. The well dries out and gets blocked. But still, they should not [or They did not yet (?)] (SH)/ They did not as yet dig [another] well (R) (Hex.48 *Jing*).[143]

The interpretation of the SHZY character 母 is problematic here because both *wú* ***ma** 毋 'should not' (or *wù* ***mət** 勿 'should not') and *wèi* ***mət-s** 未 'not yet' seem to make sense in the context. The alternation *wù* ***mət** 勿 ~ *wèi* ***mət-s** 未 surrounding the character 母 of the Chu version makes us realize that these two are actually etymologically related. The former is prohibitive modal negative and the latter imperfect aspect negative.

The SHZY character 勿 (str.24) on the other hand regularly corresponds to R 勿, and this character in the *Zhouyi* stands for two different words, in my interpretation, (i) *wù* ***mət** 勿 'should not' and (ii) *wú* ***m(r)a** 無 'not have'. See first, examples of the prohibitive use.

SHZY: 初九 悔 亡喪馬勿由自𢓜 ...
Received: 初九 悔 亡喪馬勿逐自復 ...
Nine on the first. Regret is gone. One will lose his horse. Do not pursue it. It will return spontaneously (Hex.38 *Kui*).

In other places the prohibitive 勿 precedes the word *yòng* 用 'use' (> 'take an action') which is a special divinatory term in the *Zhouyi* which indicates a positive advisability for the action to be taken. This term seems to have developed out of the common word *yòng* 'use' which also appears in the *Zhouyi*.

SHZY: ... 𥝢貞 用大牲 𥝢 又卣䢋
Received: ... 利貞 用大牲 吉 利有攸往
It is an augury of benefit. Use a large sacrificial animal. [Auspicius (R).] It is beneficial to have a place to go (Hex.45 *Cui*).

Note the correspondence of the synonymous words *yǐ* 以 (SHZY) and *yòng* 用 (R).

SHZY: 九晶 汬朻不飤為我心寋 可以汲...
Received: 九三 井渫不食為我心惻 可用汲...
Nine on the third. The well is closed (SHZY) / The well is cleared (R) and one does not drink. Someone is sympathetic (?) with us. It can be used to draw water (Hex.48 *Jing*).

143 The interpretation follows Gao Heng *ibid*:146.

The phrase *wù yòng* 勿用 'do not take [the following action]' precedes a verb phrase always without a direct object which would otherwise be expected for the transitive verb *yòng* 'use', and it contrasts with the affirmative counterpart *yòng* 用, also immediately followed by a verb phrase.

SHZY: 敂 女藏[144] 勿用取女
Received: 姤 女壯 勿用取女
Gou. The woman is getting away (SHZY) / The woman is stout (R). Do not take an action to take a wife. (Hex.44 *Gou*)

Compare this with the affirmative counterpart 用 + VP:

SHZY: 初六 厜君子 甬涉大川 吉
Received: 初六 謙謙君子用涉大川 吉
Six on the first. *Qian qian*, the lord! Take the action to ford a big river. Auspicious (Hex.15 *Qian*)

SHZY: ...秎用戠伐 亡不秎
Received: ...利用侵伐 无不利
It is beneficial to take the action to invade and defeat them. There is nothing unbeneficial (Hex.15 *Qian*)

SHZY: ...可用行市 征邦
Received: ...利用行師 征邑國
It is permissible (advisable) (SHZY)/ beneficial (R) to take the action to mobilize the troops and to make an incursion into the state (SHZY) / city-state (R) (Hex.15 *Qain*).

SHZY: ...秎用祭祀
Received: 九五 劓刖 困于赤紱 乃徐有說 利用祭祀
Nine on the fifth. Cut off the nose and ear. Something is bound by a red rope and then it is slowly released. It is beneficial to take the action to make the *ji* and *si* offerings (Hex. 47 *Kun*).

This word *yòng*, as a divinatory idiom behaves just like many other idioms in the *Zhouyi* in fluctuating between the two versions. See the following pairs of variation.

144 The 藏 (SHZY) ~ 壯 (R) variation occurs repeatedly.

SHZY: ... 𥝢用見大人不𥝢涉大川
Received: ... 利見大人 不利涉大川
It is beneficial to [take the action to (SHZY)] have an audience with a great person. It is not advisable to ford a big river (Hex.6 *Song*).

SHZY: ... 王晶驅 遊前𠓝 ...
Received... 王用三驅 失前禽 ...
The King whips thrice (SHYZ)/ takes the action of whipping thrice (R). [He] loses the first game animal (Hex.8 *Bi*).

SHZY: 初六 敕馬藏吉 悔亡
Received: 初六用拯馬壯吉
Six on the first. [Take the action (R)] to wield the horse. [The horse is (?)] hiding (SHZY)/ stout (R). [Regret is gone (SHZY)] (Hex.59 *Huan*).

The usage of 勿 for *wú* ***m*(*r*)*a*** 無 is evident in this line:

SHZY: 九五 亡忘又㾊 勿藥又菜
Received: 九五 无妄之疾 勿藥有喜
Nine on the fifth. There is an illness [concerning] *Wu wang* ("Not having disorder"). There are no medicinal plants but only vegetables (SH)./ As for the illness of *Wu wang*, there is no medicinal plants [for it], but there is grace (R). (Hex.25 *Wu wang*).

The meaning of "勿" in the following line is somewhat indeterminate.

SHZY: ... 啻虖 莫譽又戎 勿卹
Received: 九二 惕號 莫夜有戎 勿恤
Nine on the second. One will be startled and alarmed. Nobody raises [it] (SHZY)/ In the evening or night (R), there will be an appearance of the Rong-barbarians.[145] There is nothing to worry about / Do not worry (?) (Hex.43 *Guai*).[146]

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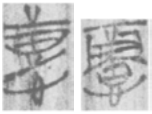
145 The word *róng* 戎 which I interpret as 'Rong-barbarian' recurs in this hexagram: 揚于王庭, 孚號, 有厲, 告自邑, 不利即戎, 利有攸往 "[Barbarians] are spreading about the royal court. Captives are shouting. There is danger. A report comes in from the town. It is not beneficial to approach the Rong-barbarian [at this time]." This line is lost in SHZY.

146 The form 莫 (LZ-A 5) in Chu manuscripts is regularly used for *mù* 莫 'none' just like the received orthography. The SHZY 莫 (str.38) here does not require any different treatment. The same character 莫 in R, which occurs in sequence with *yè* 夜 'night' may be intended for *mù* 暮 'evening' as Gao Heng (1947 [1973]: 14) speculates. It is possible that a re-interpretation of the original graph 莫 and a subsequent re-wording have occurred in this textual position.

5.2.4 Sound symbolism and Phonograms

(21) ⿱疐心 ⿱啇心  (str.4) :: 窒惕 *zhì tì* 'frustrated and alarmed'

SHZY: 訟. 又 孚 ⿱疐心⿱啇心 中 吉 冬 凶 ...
Received: 訟. 有 孚 窒 惕 中 吉 終 凶 ...
The *Litigation*. There will be a punishment. One will be frustrated and alarmed. Auspicious in the middle, but unfortunate at the end (Hex.6 *Song*).[147]

The pronunciation of the first syllable in "⿱疐心⿱啇心" can be surmised from the received character 懥 for *zhì* ***trit-s*** 'angry'. The received version has *zhì* ***trit*** 窒 'block' matching with the latter in pronunciation. The correspondence in the second syllable, SHZY ⿱啇心 to R *tì* 惕 'alarmed' points to a fluctuating value ***ttʰek*** ~ ***hllek***. The phonophoric variation 帝 ~ 易 is repeated for the word *xī* ***s-llek*** 裼 'wrapper' in the *Shijing*: the word *xī* is written as 裼 in the Maoshi version in the line "tailor [for them] to dress them in wrappers" 裁衣之裼 (Mao 89), but as 禘 in the *Hanshi* version (*Jingdian Shiwen*, 306). The *Jiyun* 集韻 enters ⿰衤啇, 褅 and 裼 as variant forms (Pu Maozuo 2003: 141). The first form 啇, is in fact the predecessor of the modern graph 商. The phonophoric series of the latter points to ***Tek***: see for example, *dī* ***ttek*** 商 'base'. The series for 易 on the other hand has to be reconstructed ***Lek***. The repeated alternation of the two phonophorics suggests the EP {商, 易}.

(22) 猷 余 (str.14) :: 由豫 *yóu yù* 'being indecisive'

SHZY: 九 四 猷 余 大 又 㝵 ...
Received: 九 四 由 豫 大 有 得 ...
Nine on the forth. Being indecisive [i.e., Following after the YU], one will gain a great deal. (Hex.16 *Yu*)

This alliterative binom *yóu yù* ***lu-la*** 猷余 (SHZY) or 由豫 (R) is well known in received literature as meaning 'being indecisive' or 'hesitant'. Note for example, 平原君猷豫未有所決 (*Zhanguoce*; "Zhaoce 趙策") "Lord Pingyuan was being indecisive and did not yet have what he was settled upon". The word is written as

147 Interpretation after Gao Heng (1947 [1973]: 25).

猷豫 in this received text. Lu Deming also notes that the word *yóu* 由 in Ma Rong's version of the *Zhouyi*, cited in Zheng Xuan's commentary, is written 猶 (variant of 猷) just like in SHZY. In the *Zhouyi*, this disyllabic word is used as a pun that approximates the hexagram theme YU 余/豫 in the verb-object structure, viz.,'follow (***lu**) the YU (***la**)', homophonous with 'hesitating' ***lu-la**.

(23) 𩐨𩐨 (str.25) :: 眈眈 *dān dān*

Lu Deming in his *Jingdian Shiwen* quotes Ma Rong's interpretation of this expression *dān dān* 眈眈, 'appearance of a tiger looking downward'. The "tiger" here is taken right from the *Zhouyi* line where this binom occurs.

> SHZY: ... 虎視𩐨𩐨 亓猷攸攸 亡咎
> Received: ... 虎視眈眈 其欲逐逐 无咎
> The tiger is observing [it] carefully. Its plans (SHZY) /desires (R) are far-reaching. There is no fault (Hex.27 *Yi*)

Xu Shen also gives the definition for *dān* ***ttəm** 眈 based also on this *Zhouyi* line as 'look closely with a far-reaching intention (眈, 視近而志遠也)' (Gao Heng 1947 [1973]: 95). The SHZY character 𩐨 has the graphic component 𦎫 (敦), which regularly writes *dūn* ***ttwər** 敦 'thick' in the received orthography. The ***Twər**-type syllable which the latter indicates is not quite close enough to *dān* ***ttəm** 眈, if these two were to be equivalent phonophorics for regular lexical words, but considering that they are variants of a sound-symbolistic expression, this much compatibility, i.e., with the shared sequence ***T-ə-**, seems still sufficient for preserving the same 'meaning'.

(24) 緀疋 (str.38) :: 次且 *zī qiě* 'walk with difficulty'

The phonophoric 妻 *qī* *$tts^{h}ij$ 'wife' writing the fist syllable is fully compatible with 次 *zī* ***tsij** of R, while the second one 疋 ***Sa** (Cf. 疋 *shū* ***sra** 'foot') does not match perfectly with *qiě* *$ts^{h}a?$ 且. The MWD version has 郪胥 similarly to the SHZY one. But again, the difference between *TS- ~ *S- can be pardoned for a mimic word.

5.2.5 Old Chinese dialect words

In the example (23) above, Xu Shen’s interpretation “far” regarding the mimic word *dān dān* 眈眈 is taken from the phrase *zhú zhú* 逐逐 in the same line, which according to the *Jingdian Shiwen* is rendered *yōu yōu* ***lu-lu** 悠悠 ‘far’ in many versions such as in the Zi Xia 子夏 Commentary, and the editions of Xun Shuang 荀爽 and Liu Biao 劉表 (p. 94). This agrees with the “攸攸” of SHZY. The word *yōu* 悠 is cognate with *yáo* 遙 ‘far’ as suggested in Yang Xiong’s *Fangyan*: “*yáo* (OC ***law)** 遙 means ‘far’. In the Chu and Liang regions, they pronounce [the word] as such” (遙, 遠也, 梁楚曰遙).[148] This implies cognate relation between *yōu* ***lu** 悠 and *yáo* ***law** 遙, and further suggests a common origin of words in ***-u** and ***-aw**. Based on this, we can reconstruct the word *zhú* < MC *drjuwk* 逐 ‘pursue’ in R as ***lraw-k**, with the initial ***l-** rather than ***d-**. The MWD version in this position has “笛笛” with the phonophoric 由 ***Lu(k)**. (Cf. *dí* ***llawk** 笛 ‘flute’). The word *zhú* 逐 ‘pursue’ used as a common word corresponds twice to *yóu* 由 ‘follow’ of SHZY.

> SHZY: ...喪馬勿由自復...
> Received: ...喪馬勿逐自復...
> Nine on the first. When you lose a horse, do not follow it. It will return spontaneously (Hex.38 *Kui*).
>
> SHZY: 九晶 良馬由...
> Received: 九三 良馬逐...
> Nine on the third. A fine horse will follow (Hex.26 *Da xu*).

It seems probable that *zhú* 逐 ***lraw-k** and *yóu* ***lu** 由 are etymologically related, alternating as dialect variation of ***law(k)** ~***lu(k)** which eventually go back to a common origin.[149] Note also that the SHZY character 䌛 (繇) (str.25), whose phonophoric suggests the ***-aw**, is defined as ‘comply, ‘follow’ (隨從也) in the *Shuowen* and it corresponds to R 由 *yóu* ***lu** ‘follow from’. The graph 繇 or 䌛 is regularly used for *yóu* 由 in Qin and Western Han manuscripts from various regions (Li Yu 1994: 99-100). This character usage is also commonly found in received early texts (Gao Heng 1989: 714-16). Below is another textual variant that involves the ***-aw** ~ ***-u** alternation.

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148 *juan* 6, p. 42 in the *Fangyan Jiaojian* 方言校箋 by Zhou Zumo (1993 [2004])
149 The 由 phonophoric series, GSR #1079, has some words with *-k, i.e., *-uk in our reconstruction system.

(25) 㯱 (str.40) *piáo* 'bag' :: *bāo* 包 'bag'.

SHZY: 九 四 㯱 亡 魚 巳 凶
Received: 九 四 包 无 魚 起 凶
There is no fish in the bag. It is the beginning of a disaster (Hex.44 *Gou*).

The MC *bjew* (符霄切) of *piáo* 㯱, according to the *Tangyun* 唐韻 quoted in the *Kangxi Zidian*, suggests OC ***baw**.[150] Xu Shen defines the word 'bag wide open' (囊張大貌). This character occurs in the "Stone drums" text from the Qin state, dated to ca. 500 BCE.

惟鱮惟理何以㯱之[151]
May it be Yu-fish or Li-fish, what would I use to bag them all?

The context tells that the word means '[put in a] bag'. This is similar to *bāo* ***ppru** 包 which is also used either as 'bag', a noun, or transitively, 'put in a bag'. Note also that the phonophoric 缶 in 㯱 suggests the syllable type ***Pu** (Cf. *fǒu* ***pu?** 缶 'jar').

It is important to note that these dialect cognates were absorbed into the Old Chinese lexicon, perhaps used as distinct words with different nuance. The *Fangyan* locates the ***-aw** type word to the Liang-Chu region, (although we would not know the actual pronunciation of Yang Xiong's time), but SHZY, which faithfully reflects the Chu regional script style (Chapter 4), does not show this Chu dialect feature consistently. SHZY can have ***-u** where the received version has ***-aw**. The alternation of these rhymes is also found in textual variants among received versions and in received characters that are in the same phonophoric series (see Li Fang-kuei 1982: 40). Even if the ***-aw** indeed comes from the Old Chu regional dialect, what SHZY reflects is not directly the Chu dialect but rather the *yayan* OC lingua franca in which the ***-aw** and ***-u** type words co-exist.

150 Duan Yucai attributes this word to his Third Rhyme- group (三部), equivalent of You 幽 (***u**).
151 This transcription follows Zhao Chao (2006: 38).

(26) 肤 (str.33) :: 膚 *fū* 'skin'

The SHZY character 肤 corresponds twice (str.no.33 and 41) to the R 膚 for the word *fū* 'skin'. The form 膚 (Tang 11) existed in the Chu script as well as in the Qin script. Thus the 膚 is a Common W.S. form (CF) which most likely came from an earlier period.[152] The component 虍 (虎) in 膚 suggests an OC syllable type *Q**(r)a ~ K(r)a**,[153] but the MC *pju* of *fū* 膚, reflects the OC ***p(r)a** with the labial initial ***p-**.

It is probable that this is another case of labialization of velar or uvular initials which took place in an OC dialect at least by the early W. Zhou period (Section 3.4.3). The character 肤, composed of {S 月(肉) 'flesh' + Ph 夫 ***Pa**} seems to be a Chu regional variant created to reflect the labial initial in the contemporaneous Warring States phonology. This new form was used simultaneously with the CF 膚 in the Chu script. Similarly to the case of the form (中山王壺) {S 立 + Ph 胃} from Zhongshan in relation to the CF (LZ-C 10) {S 人+ Ph 立} for *wèi* 位 'position', this Chu variant did not survive into the received script.

(27) ⿱罒各 (str.42) :: 假 *jiǎ* 'arrive'

The SHZY character ⿱罒各 which corresponds to *jiǎ* 假 'arrive' of R is most likely a variant of *gé* 格 'arrive' known from the received literature.

SHZY: ⿰卒卩 王⿱罒各于⿱宀苗 ...
Received: 萃 亨 王 假 有 廟 ...
The Cui. [*xiang*-sacrifice (R)]. The King went to the temple (Hex.45 *Cui*).[154]

The word *gé* 格 occurs frequently in W. Zhou bronze inscriptions: it is most commonly written as 各 (JC 2730) and sometimes as 佫 or 逄 with alternating SS {彳 'road', 辶 'move'}.

152 For clear images of the 胃 part, see (LZ-B, 6) and (str.56) (used for 謂 *wèi* 'refer to'). The short parallel slanting strokes on 月 (肉) are, as He Linyi explains it, a marker that distinguishes 肉 'flesh' from the graphically similar 月 'moon'.
153 Note *lǜ* 慮 ***ra-s** 'consider' {S 思 + Ph 虍} for ***r-**.
154 The word *yǒu* 有 of R in this line is strange. In inscription texts *gé* 'arrive' is followed by a locative with or without 于. There is no case of 又 (有) occurring in the position for 于.

惟王來各于成周　　early W. Zhou, JC 2730
It was when the King arrived at Chengzhou.[155]

王迼于庚贏宮　　early W. Zhou, JC 5426
The King came to the Gengying Palace.

Apart from 茖, SHZY also has the character 叚 (str.54) corresponding to R 假. The *Shuowen* has an entry for the graph 徦 defined as 'arrive' (徦, 至也; 2b/77). The context where this word occurs is exactly the same as that for the 茖 ~ 假 alternation above.

SHZY:　　　　　　 鏇 卿 王 叚 于 宙 ...
Received:　 渙 亨 王 假 有 廟 ...
The HUAN. Xiang-sacirifice. The King went to the temple (Hex.59 *Huan*).

We may suppose the following possibilities: one is that the two distinct graphs, 茖 and 叚 which both correspond to R 假 represent two synchronically different but etymologically related words; the other is that they are variant graphs for one and the same etymon. The *Fangyan* suggests the former is the case: they wrote two pronunciations of the same word, but existing in one dialect region: "*jiǎ* (MC *kæX* <***kkraʔ**), *gé* (MC *kæk* < ***kkrak**) ...[all these words] mean 'arrive'; in the regions around Bin, Tang, Ji and Yan, they say *jiǎ* (***kkraʔ**), some people say *gé* (***kkrak)**" (徦, 狢,...至也.邠唐冀兗之間曰徦或曰狢).

(28) 羅 (str.56) *luó* 'bird trap', 'net', 'lay out' :: 離 *lí* 'bird name', 'separate', 'lay out'

The *Fangyan* has an entry that suggests dialect variation for the same word between ***-waj** and ***-aj**: 羅謂之離, 離謂之羅 "*luó* (< *lwa*) ***rrwaj** means *lí* (< *lje*) ***raj** and *lí* means *luó* " (*juan* 7)". Guo Pu's commentary on this line says: 皆行列物也 "both words mean 'lay out objects'". Related to this fact is that the distinction of syllables with or without the rounded medial *-w-* for words in MC -(*w*)*a* (Ge 歌/戈), a reflex of OC *-(**w**)**aj** (Ge 歌) rhyme group, vacillates in sources of Middle Chinese

155 This example where 各 immediately follows 來 'come' confirms the meaning of 各 'arrive' as it marks the accomplished result of "coming".

phonology as well as in modern dialects.[156] It is probable that 羅 *luó* and 離 *lí* descended from the same root. The alternation of the characters 離 and 羅 is common in received early texts (Gao Heng 1989: 673). MWD has 羅 in this *Zhouyi* line. The graphic variation between 離 and 羅 may be explained as follows. They share the component 隹 'short-tailed bird', which may have been the phonophoric standing for ***r**(**w**)**aj** 'id.'; 離 has another phonophoric 离 *chī* < *trhje* < ***hraj** 'a legendary beast', which suggests EP {隹, 离} for ***R(w)aj**; 羅 has two added significs instead, 糸 'thread' and 网 'net', which would have been motivated by the meaning 'bird trap' of this word.

(29) 酌 (str.57) :: 禴 *yuè* 'libation'

The components of the SHZY character 酌 and of the 禴 of R are compared as SS {示 'ritual', 酉 '*you*-wine offering vessel'} and EP {勺, 龠}, but the latter has two alternating values ***Tawk** and ***Lawk**. The *Shuowen* enters the form 礿, which is an intermediate form between 酌 and 禴, defined as 礿, 夏祭也从示勺聲 (1a/5) "summer sacrificial-offering, composed of 示 and 勺, the latter is the phonetic". Duan Yucai quotes the following *Zhouli* line suggesting that 礿 and 禴 for the word *yuè* < MC *yak* < ***lawk** 禴 'libation' are variant forms: 以禴夏享先王 "In the summer season they receive the former kings by means of the libation sacrifice".

> SHZY: 九 五 東 吝 殺 牛 不 女 西 吝 之 酌 祭 ...
> Received: 九 五 東 鄰 殺 牛 不 如 西 鄰 之 禴 祭 ...
> Nine on the fifth. The (sacrificial) killing of an ox by the neighbor in the east is not as good as the libation offering by the neighbor in the west (Hex.63 *Jiji*).

The form 酌 in the received orthography, structurally identical with the SHZY form, is associated with the word *zhuó* < MC *tsyak* < ***tawk** 'toast'. Xu Shen defines the Seal form 酌 as 盛酒行觴也 (14b/748) "fill wine to the full and make a toast". It seems that this *zhuó* is related to the *yuè* 禴 'libation' by the root meaning 'serve,

156 E.g., the character for *wǒ* 我 (str.24) ***ŋŋ**$^{(\mathbf{w})}$**aj?** 'we' in the early script has the phonophoric 戈 (休盤) *gē* ***kk**$^{(\mathbf{w})}$**aj** 'halberd', the former belonging to the *Guangyun* MC *ge* 歌, a rhyme without -*w*-, and the latter *ge* 戈 one with -*w*-, respectively. The Mandarin pronunciations *wǒ* (with -*w*-) and *gē* (without) contradicts this *Guangyun* classification. But the *Yunjing* rhyme table treats both *ge* 歌 and *ge* 戈 rhymes as having -*w*-. There are some discrepancies among Tang dynasty rhyme dictionaries regarding the treatment of these rhymes. Some *Qieyun* manuscripts do not distinguish between 歌 and 戈 (Li Xinkui 1982 [2006]: 242). The pronunciation of these rhymes in modern dialects with respect to the presence and absence of the rounded medial is widely varied (*ibid.*).

pour (wine)'. We do not yet have a way to reconcile the difference between ***l-** and ***t-** in OC reconstruction, but we nevertheless have to accept the recurring contact as a fact.[157] If the variation in the initial as ***l**- and ***t**- are due to a dialect mixture, the meanings 'libation' and 'toast' are simply different shades of the same etymon's meaning.[158] The MWD version in this textual position has 濯 which in the received orthography stands for *zhuó* < MC *dræwk* < ***llrawk ~ ddrawk** 'bathe', perhaps another member of the same word family. This variation between the MWD and received version suggests another pair of EP {濯, 龠} for ***Lawk ~ *Tawk**. This EP is repeated in the word for *yuè* ***lawk** 'jump' in the following line from the Hexagram *Qian* 乾 (Hex.1).[159]

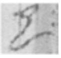
MWD: 九 四 或 鑰 在 淵 无 咎
Received: 九 四 或 躍 在 淵 无 咎
Nine on the fourth. Some [of them] are jumping in the depth. There is no trouble.

5.2.6 Etymological relations

(30) 頯 (str.14) :: 疑 *yí* 'doubt'

The SHZY character 頯 for *yí* ***ŋəʔ** 疑 'doubt' has the phonophoric 矣 (Lu 8). This graph is used by itself for *yǐ* ***Gəʔ** 'perfective aspect final particle'. If the element 以 (str.12) in 矣 is phonophoric, its functional value should be deduced as ***Kə**, which then points to OC ***[g]əʔ** for *yǐ* < MC *yiX* 以 'take up to use, by means of'. This reconstruction is supported by the following textual and graphic evidence. In the position corresponding to the word *yǐ* 以 of R is the SHZY character , (the early Chinese script origin of both 巳 and 已), suggesting EP {以, 巳 /已} for the value ***Kəʔ**:

157 The phonophoric series of 龠 (GSR #1119) and of 翟 (GSR #1123) generally reflect ***L-** whereas the series of 勺 (GSR #1120) contains such MC syllables as *tsyak* and *tek* which points to ***T-**.
158 Matisoff's (2006) "Deltacism of laterals in Sino-Tibetan and elsewhere" discusses the phenomenon of alternation between lateral and dental or alveolar stop initials in Sino-Tibeto-Berman languages.
159 This hexagram is lost in the SHZY.

(31)  (str.17) :: 以

SHZY: 又 孚 才 道 巳 明 可 咎
Received: 有 孚 在 道 以 明 何 咎
There will be a punishment in the path so as to clear [things up]. What balme could there be? (Hex.17 *Sui*)[160]

The graph [巳/已] itself has two other correspondences, once to *qǐ* ***khəʔ** 起 ‘raise’ and once to *sì* ***s-gəʔ** 巳 ‘6th of the 12 earthly branches’:

(32) (str.41) :: 起

SHZY: 九 四 橐 亡 魚 巳 凶
Received: 九 四 包 无 魚 起 凶
Nine on the fourth. There is no fish in the bag. It will bring a disaster (Hex.44 *Hou*).

(33) (str.22) :: 巳

SHZY: 初 九 又 礪 秎 巳
Received: 初 九 有 厲 利 巳
Nine on the first. There will be hardships. Benefit on the *si* (?) day (Hex.26 *Da xu*).

Also, the graph is phonophoric in 改 (str.44) for *gǎi* ***kkəʔ** ‘change’ and 祀 (str.43) for *sì* ***s-gəʔ** ‘offering’. When a (post-)velar initial *[**g**]- is thus established for 已 *yǐ* ***[g]əʔ** ‘completed, cease’ as a verb, ‘that’s that’ as a final particle, we may suppose that the latter is etymologically related to 矣 *yǐ* ***Gəʔ**, ‘perfective aspect particle’

(34) 佝 (str.34) :: 媾 *gòu* ***kko-s** ‘contract (a marriage)’

The SHZY character 佝 is composed of {S 人 ‘person’, Ph 句}, and the R 媾 {S 女 ‘woman’, Ph 冓}. The SS {人, 女} occurs frequently in the early script. The alternating phonophorics 句 and 冓 are EP for ***Ko**. Consider the following word in the *Zhouyi*:

160 This is an interpretation by Gao Heng (1947 [1973]: 64-65).

(35) 敂 (str.17) :: 姤 *gòu* hexagram theme (Hex.44)

The SHZY character 敂 corresponds to the hexagram name *gòu* ***kko-s** 姤, whose lexical meaning is unknown. This theme word occurs twice in the hexagram, but witout apparent semantic connection.[161]

SHZY: 敂 女藏 勿用取女
Received: 姤 女壯 勿用取女
GOU. The woman is hiding (SHZY)/ stout (R). Do not take any action to take a wife.

SHZY: 上九 敂亓角 吝亡咎
Received: 上九 姤其角 吝无咎
Nine on the top. GOU its horn. Distressed. No faults.

Lu Deming in the *Jingdian Shiwen* notes that the *guwen* text of the *Zhouyi*, as is also noted in Zheng Xuan's edition, renders the hexagram name as 遘 *gòu* ***kko-s** 'encounter' (薛云古文作遘鄭同.序挂及彖皆云遇也, *juan* 1/106). This is probably why, as Lu Deming notes, the *Xu gua* 序挂 and *Tuan gua* 彖挂 interpret this word as *yù* 遇 'encounter'. We can thus establish EP {句, 冓}. MWD has different forms, 狗 and 坸 in the two positions for R "姤". The alternating significs in these are not SS, which seems to suggest that this obscure word underwent re-interpretations there.

The character 遘 ⿰彳遘(克盨) in W. Zhou bronze inscriptions stands for *gòu* 媾 'contract (a marriage)' used in the phrase *hūn gòu* 婚遘 (i.e., 婚媾) 'marriage contract' (Rong Geng 1985 [2005]: 97). Consider the meaning of these words in connection with *gòu* 構 'make a bridge or connection'. We can surmise that 構, 媾 and 遘 are variant forms for one and the same etymon *gòu* ***kko-s**, meaning 'relate, become related'. The varying significs would have been initially added to fit the idiomatic objects this transitive verb typically takes.

The obscure character 姤 has S 女 and Ph 后. Lu Deming records an archaic variant 逅 for the two characters 遘 and 覯 occurring in the *Shijing*, which are both well interpreted as 'meet up' (Gao Heng [1947] 1973: 151). This suggests that 后 and 冓 are also EP. The character 姤 is probably a variant of 媾 for *gòu* 'marriage contract'.

161 The form occurs once more in SHZY where it writes *jū* ***kro** 拘 'fetter' (str.40), which shows SS {攴 'treat', 手 'hand'}.

(36) 卿 (str.12) :: 亨 *hēng* ‘success’

The graph 卿 in SHZY occurs regularly in the position for *hēng* 亨 ‘success’ in R as in the repeated divinatory idiom *yuán hēng* 元亨 “primary success”:

SHZY: 蛊 元卿 𥝢涉大川...
Received: 蠱 元亨 利涉大川...
The *Gu*-bug. Primary success. It is beneficial to ford a big river (Hex.18 *Gu*).

SHZY: 陵 元卿𥝢貞 亡咎
Received: 隨 元亨利貞 无咎
The *Sui* (i.e., *Following*). Primary success. Favorable augury. There is no fault (Hex.17 *Sui*).

Luo Zhenyu noted that 卿 in the early script developed into three distinct characters in the modern script standing for the words, *qīng* ***k^{h}raŋ** 卿 ‘minister’, *xiāng* ***q^{h}aŋ** 鄉 ‘village’ and *xiǎng* ***q^{h}aŋʔ** 饗 ‘feast’ (cited in Rong Geng 1985 [2005]: 645; see also GSR #714). The word *hēng* ***qq^{h}raŋ** 亨 ‘success’ on the other hand is known only from the *Zhouyi* as a divinatory idiom. The character 亨 is graphically related to 享 for *xiǎng* ***q^{h}aŋʔ** ‘a type of sacrifice, delight in something’, both of which originate from a single early form 亯 (買簋). Given this, Gao Heng (1963: 87-88) suggests that the phrase *yuán hēng* 元亨 which contrasts with *xiǎo hēng* 小亨 (Hex.56 *Lü*) should be interpreted as ‘primary *xiang*-sacrifice’ as opposed to a minor (or secondary) one. Considering the close connection between divination and sacrificial rites, this suggestion seems quite plausible. The graph 亯 (str.17) occurs once in SHZY corresponding to R 亨 where it is interpreted as *xiǎng* 享.

SHZY: ...王用亯于西山
Received: ...王用亨于西山
The King performed the *xiang*-sacrifice at the Western Mountain (Hex.17 *Sui*).

It seems that *xiǎng* ***q^{h}aŋʔ** 饗 ‘feast’ and *xiǎng* ***q^{h}aŋʔ** 享 ‘a type of sacrifice, delight in something’ are one and the same etymon. The relation between these two is exactly parallel with the regular correspondence between 卿 in SHZY and 亨 in R. In sum these textual variants show EP {卿 (> 饗), 享 ~ 亨} writing the etymon ***q^{h}aŋʔ** ‘feast, kind of sacrifice’.

(37) (str.25) *chǔ* 凥 (variant of 處) ‘stay, place’ :: *jū* 居 ‘residence’

The character 凥 was previously thought to be an archaic variant of *jū* 居 ‘residence’ because it frequently occurs in the textual position for *jū* 居 ‘residence’. Pu Maozuo (2003: 159) for example, who notes their recurring alternations in other texts, refers to the *Yupian* which treats the 凥 and 居 as variants. Duan Yucai suggested the same idea.

> SHZY: 六 五 ⿱弜心 經 凥 貞 吉 不 可 涉 大 川
> Received: 六 五 拂 經 居 貞 吉 不 可 涉 大 川
> Six on the fifth. Intervening in the route. It is an augury of staying. Auspicious. It is not permissible (i.e., advisable) to ford a big river (Hex.27 *Yi*).[162]

Zeng Xiantong (2005) proposes that 凥 is in fact a variant of *chǔ* 處 ‘stay, place’, not of *jū* 居 ‘residence’. Strong evidence for this comes from a Baoshan Chu manuscript where there is a line in which 凥 and 居 occur in sequence (49-51). Zeng also notes that the phonetic compatibility between 凥/處 *chǔ* (*chù*) < *tsyhoX* (*H*) < ***k^{h}a?(-s)** (palatalizing) and 居 *jū* < ***k(r)a**) would have been the motivation for the repeated rendering of 処 (處) as 居 in received texts.

Xu Shen in the two separate entries for 凥 and 処 (處), did not exactly treat them as variant forms, but rather as synonymous words:

> 凥処也从尸几尸得几而止也 孝經曰仲尼凥凥胃閒凥如此 (14a/715).
> 凥 means *chǔ* 処 ‘stop, stay, place’. The graph is composed of 尸 and 几 . A body (尸) obtains a *ji*-table (几) and then stops. The *Xiaojing* has the line, “Zhong Ni (Confucius) *resided* (凥)”: the word *reside* here is like saying *reside in retirement* (閒凥).

> 処, 止也. 夂得几而止也. 處, 或从虍聲 (14a/716)
> 処 means *zhǐ* 止 ‘stop’. A foot (traveler) (夂) obtains a *ji*-table (几) and then stops. This character is sometimes written with the phonophoric 虍.

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162 The character 拂 in the received orthography stands for *fú* ***p^{h}ət** ‘invade, violate, provoke’ and *bì* ***bət** (or perhaps ***N-p$^{(h)}$ət**) ‘assist, intervene’. The form ⿱弜心 in SHZY is hard to explain except that the part 弜 is similar to 弼, a variant graph for *bì*. However this does not necessarily suggest that ⿱弜心 should be read as *bì* rather than *fú*; both of these reflect ***pət**, and probably belong to the same word family. The Mawangdui “Zhouyi” has 柫, and the Fuyang “Zhouyi” has 弗. Pu Maozuo (2003: 170) suggests to interpret ⿱弜心 as the negative *fú* 弗 following the Fuyang version. Shaughnessy (2014: 98-99) interprets ⿱弜心 as “aid”, but 拂 in R as the negative *fú*. In my translation “intervening”, I intend to represent the *fú*/*bì* ***pət** word family which possibly underlies both the SHZY and the received versions.

Xu Shen’s definitions are like a graphic “pun”, a definition made out of the two graphic components of each character, which is clearly an effort to make sense of the graphic composition that does not involve an identifiable phonophoric.

It is worth noting that 凥 and 処 (Qin Seal) are graphically similar. They seem to be duplicates derived from a single form by a mis-interpretation or re-interpretation of either one. The phonophoric 虍 preserved in 處 for *chǔ* suggests the OC syllable type ***Kra ~ Qra** (Cf. 虍 *hǔ* ***qqʰra** ‘tiger’); the phonophoric in *jū* 居 has the Ph 古 * **K**(**r**)**a**. It is probable that *chǔ* and *jū* which often alternate as synonyms in textual variation, are eventually related in a word family.

(38) ⿲阝水阝 (str.50) *jiàn* 澗 ‘valley’ :: 干 (variant of 岸) *àn* ‘bank (of a river)’

The SHZY editor regards ⿲阝水阝 a semantic compound (*huiyi* 會意) which is composed of 水 ‘water’ and two of 阜 ‘mound’ on either side to decipher it as *jiān* 澗 ‘valley’ (p. 204). The context of the *Zhouyi* clearly indicates that this word is an orographic term.

SHZY: 初六 ⿰鳥工 ⿱斬糸 于 ⿲阝水阝 ...
Received: 初六 鴻 漸 于 干 ....
Six on the first. The wild goose approaches the stream-valley (?).

SHZY: 六二 ⿱白紅 ⿱斬糸 于 ⿱⿰阝又土 ...
Received: 六二 鴻 漸 于 磐 ...
Six on the second. The wild goose approaches the slope.

SHZY: 九晶 ⿱白紅 ⿱斬糸 于 陸 ...
Received: 九三 鴻 漸 于 陸 ...
Nine on the third. The wild goose approaches the high ground.

I suspect that this graph ⿲阝水阝 is a mutation from a compound that has the same underlying structure as 澗 {S 水 ‘water’ + Ph 間 ***Kan**}. Compare the Chu character 閒 (Yu-3, 29) for *jiān* ***kkran** 閒 (variant of 間) ‘between’. This is a variant of 閒, in which the 月 ‘moon’ is replaced by a semantically and graphically related 夕 ‘evening’. In the graphic position of 夕 ~ 月 ~ 日 is filled in by the signific 水 ‘water’, while the 門 part is replaced by the graphically similar 阜 (阝) ‘mound’. The semantic value of the latter component might have also contributed the change. The editor also quotes the *Jingdian Shiwen* noting that the character 澗 in the line 考槃在澗 “we make merry in the valley” (Mao 56) of the *Shijing* is rendered 干 in the *Hanshi* 韓詩 version.

Li Ling (2006: 64) suggests to decipher both the SHZY and R characters as *àn* 岸 'bank (of a river)' based on the graph 干 in the received version. The words *jiàn* ***kkran-s** 澗 'valley' and *àn* ***ŋŋan-s** 岸 'bank (of a river)' both seem to be related to *jiān* ***kkran** 閒 with the root meaning 'interstice': bank is deposits of earth parallel on the sides of the river and valley is narrow stream of water between mountains or cliffs. This etymological relation involves ***ŋ- ~ *k-**, homorganic nasal and stop alternation. Note also that the phonophoric 干 of *àn* 岸 has velar stop connection: 干 *gān* ***kkan** 'shield'. The character 閒 has another reading, *xián* ***ggran (**or ***N-kkran**) 'barricade (noun), bar (verb)', which is an 'obstacle that lies between things'. In sum EP {干, 閒 ~間} are used for the etymon 'interstice'.

(39) ⿱伓貝 (str.37) :: 負 *fù* 'carry one the back', 'liable', and 伓 (str.48) :: 背 *bèi* 'the back'

The SHZY character ⿱伓貝 (str.37) for *fù* ***bəʔ** 負 'carry one the back', 'liable' has the phonophoric 伓 (人 + 不). (Cf. 不 (str.4) for *bù* ***pək** 'not'). The bare phonophoric 伓 , without the signific 貝 'cowrie shell, material value' on the other hand corresponds to the word *bèi* ***ppək-s** 背 'the back' of R in another line, which has the phonophoric 北 (Cf. *běi* ***ppək** 'north').

SHZY: 艮 亓 伓 不 ⿱爫隻 亓 身 ...
Received: 艮 其 背 不 獲 其 身 ...
Gen its back. One will not obtain its body...(Hex. 52 *Gen*)

SHZY: ... 亓 止...
Received: 初 六 艮 其 趾...
[Six on the first , Gen (R)] its foot...

SHZY: 六 五 艮 亓 ⿰頁攴 ...
Received: 六 五 艮 其 輔 ...
Six on the fifth. Gen its jaw...

These textual and graphic correspondences show EP {不/伓, 北} which stands for the etymon ***pəʔ ~ *pək** 'the back', and its cognate ***bəʔ** (***N-pəʔ**) 'carry on the back'. Perhaps the word 北 *běi* ***ppək** 'north' also belongs to this word family, which suggests that 'north' means 'the *back* side'. The signific 貝 was probably motivated by the meaning of *fù* 'carry one the back'.

(40) 衘 (逹) (str.8) :: 帥 *shuài* 'lead (as a commander)'

The form 衘 is a predecessor of 逹 which in the *Yupian* is identified as a *guwen* variant of *shuài* 帥 'lead'. A *guwen* form precisely like in the Song dynasty work *Guwen Sisheng yun* is interpreted as *shuài* 率 'lead' (Pu Maozuo 2003: 147). As Karlgren noted (GSR #498 and #499), the characters 帥 and 率, though graphically unrelated, stand for the same word *shuài* 'lead'. From our viewpoint, these are EP for the etymon ***s-rwət** ~ ***rwət** 'lead': the character 率 is associated with two words, *shuài* < *srjwijH* < ***s-rwət-s** 'lead' and *lǜ* < *ljwit* < ***rwət** 'rule, regulation'. As the ***s**- prefix and *-**s** suffix indicate, 'to lead' is a transitive or causative derivative of 'rule' (noun) with an 'outer-directed' meaning.[163] The word *lǜ* ***rwət** 率 in turn is identified with *lǜ* < *ljwit* < ***rwət** 律 'regulations'. This gives the *bǐ* < *pjit* 筆 'brush' the OC ***p-rwət** and *yù* < *ywit* 聿 'brush' the OC ***b-rwət**, or ***N-p-rwət**. The *Erya* 爾雅 ("Shiqi 釋器" chapter) entry for 筆 reads: 不律謂之筆 "*bu-lü* (OC ***pək-rwət**) refers to 'brush'", and Guo Pu's commentary to this line is: 蜀人呼筆為不律也 "People of the Shu region (i.e., the present Sichuan province) pronounce 'brush' as *bu-lü*".

(41) (str.1) 尨 :: 蒙 *méng* ~ *máng* 'muddled', 'maculated'

The hexagram theme word, *méng* ***mmoŋ** 蒙, which is generally interpreted as 'unwise' is written 尨 in SHZY. The character 尨 in the received literature stands for *máng* ***mmroŋ** 'maculated'. Three of the six lines where the theme word MENG 蒙 ~尨 occurs survive in SHZY:

> Received: 匪我求童蒙． 童蒙求我 ·
> It is not that we pursue the MENG of the youth. The MENG of the youth pursues us.
>
> Received: 初六． 發蒙． 利用刑人 ...
> Six on the first. Put forth the MENG. It is advisable to punish the people.
>
> Received: 九二． 包蒙吉． 納婦吉 ...
> Nine on the second. Wrap the MENG. Auspicious. Take in a woman. Auspicious.

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163 These reconstructions are equivalent to Karlgren's ***sli̯wət** and ***li̯wət** (GSR #498).

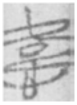
Received: 六 四 .　困 蒙 · 吝 ·
SHZY:　　六 四.　困 尨.　吝.
Six on the fourth. Restrain the MENG. Distress.

Received: 六 五 .　童 蒙　吉 ·
SHZY:　　六 五.　僮 尨. 吉.
Six on the fifth. The MENG of the youth. Auspicious.

Received: 上 九. 擊 蒙 .　不 利 為 寇 ...
SHZY:　　上 九 . 鼓 尨.　不 秎 為 寇...
Nine on the top. Strike the MENG. It is not beneficial to launch an attack...

The context itself does not reveal the lexical meaning of MENG; the words collocated with it, 'youth', 'put forth', 'restrain' and 'strike' have no apparent semantic or logical relation to one another. The syntactic function of the phrase with MENG fluctuates between the object of a verb and a verb phrase. Multiple interpretations, perhaps intended, are inevitable in such semantic and syntactic environments.

Xu Shen defines the form 尨 as "hairy dog" (尨, 犬之多毛者; 10a/473) in an attempt to explain the graphic component *quǎn* 犬 'dog' in the character. The character 蒙 occurs once in the *Shijing*, interpreted as 'maculated' in the Mao Commentary and Zheng Xuan's sub-commentary: 蒙伐有苑 "Mixed-colored shields are luxuriously decorated" (Mao 128).[164] This repeated alternation of the characters 尨 and 蒙 suggests that *máng* ***mmroŋ** 尨 and *méng* ***mmoŋ** 蒙 belong to the same word family. With the SHZY and R pointing to the same etymon, the interpretation in the line of 'unwise' can be affirmed, although we cannot determine which word, *máng* or *méng* is intended in either version.

(42) 愇  (str.11) ::威 *wēi* 'awe-inspring (demeanor)'

Xu Shen records 愇 (愇) as a *Zhouwen* variant of 韙 *wěi* ***Gʷəjʔ** (or perhaps ***N-qʷəjʔ**) which he defines as 'right' (韙, 是也) (CWZ: 94). Xu Shen may have been affected by the component 是 in giving this definition. The character 偉 for *wěi* ***Gʷəjʔ** 'great' seems to be just another variant of the latter.

SHZY:　　六 五 氒 孚 洨 如 愇 如 吉
Received: 六 五 厥 孚 交 如 威 如 吉

164 *Shisanjing Zhushu*, "Maoshi zhengyi", vol.1, 370.

> His punishment was [executed] brightly and in an awe-inspiring manner.[165] Auspicious. (Hex.14 *Dayou*)

The OC phonetic forms of *wēi* ***qwəj** 威 and *wěi* ***Gwəj**ʔ 韙 ~ 㥜 are quite similar, and so are their meanings, 'awe-inspiring demeanor' or 'grandeur'. These words may belong to the same word family.

(43) [illegible] (str.7) :: 輿 *yú* 'cart (load)'

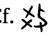
The SHZY and R character forms for *yú* < *yo* < ***[g](r)a** 'cart (load)' share the phonophoric 舁 ***K(r)a** (Cf. 舉 *jǔ* < *kjoX* < ***k(r)a?** 'lift') while having the synonymous significs 止 'step, move' and 車 'cart' respectively. The latter fuctions as a phonophoric as well: 車 *chē* < *tsyhæ* < ***kha** (palatalizing) and *jú* < *kjo* < ***k(r)a** 'chariot'. The SHZY 舁 is in fact a simplified variant of 與 *yǔ* < *yoX* < ***g**[**r**]**a** 'combine', composed of { Ph 舁 + Ph 牙}, in which 牙 *yá* ***ŋŋ(r)a** 'fang' is reduced to a single vertical line (See CWZ: 161). In the Guodian manuscripts, the form 舁 is most common, but there is an occasional variant 牙 (LZ-A 20) in which 牙 is preserved intact while the other parts are drastically simplified (CWZ: 163).[166]

(44) [illegible] (str.51) :: 譽 *yù* 'praise, fame'

The word *yù* < *yoH* < *[**g**](**r**)**a?-s** 'praise, fame', which is also written with the Ph 與 (> 舁) in both SHZY and R corresponds to MWD 舉 which stands for *jǔ* ***k(r)a?** 'raise, recommend' in the received orthography. The graph 舉 is composed of {S 手 'hand' + Ph 舁 + Ph 牙}.

> MWD: 六五 來章有慶舉 吉
> Received: 六五 來章有慶譽 吉
> SHZY: 六五 萊章又慶[illegible] 吉
> Six on the fifth. Merit comes. There are celebration and fame. Auspicious. (Hex.55 *Feng*)

165 The interpretation follows Gao Heng (1947 [1973]: 55).

166 A similar case of graphic simplification is *xué* ***ggrawk** 學 'learn'. The phonophoric 爻 is reduced to a vertical line in (LZ-B 3). Chu manuscripts have 敎 (Yu-1, 43), structurally similar to 學, writing the latter's cognate words *jiāo* ***kkraw** 教 'teach' (Cf.  散盤 ~ 郾侯簋) and *xiào* ***ggrawk-s** 校 'school'. The form (中山王鼎), which is identical with the Seal form for *xué* 'learn' stands for *jiāo* 'teach' in the Zhongshan inscription (Zhang Shouzhong 1981: 75).

These two seem to be etymologically related, the former a noun derived from the latter by the ***-s** suffix.[167] Then the *[**g**]- of *yù* may be revised to ***N**-[**k**]-. The textual variation 舉 :: 譽 :: 𢡱 thus manifests variant forms of a single character in the early script that are associated with the two cognate words *jǔ* and *yù*. We discussed the synonymous significs 言 'language' and 心 'mind' earlier; the 手 'hand' in 舉 was probably introduced for the concrete meaning 'lift' of *jǔ*. For this hexagram line, the interpretation with the noun *yù* is preferred to the verb *jǔ*. The variant in the Mawangdui version should not be interpreted as *jǔ* simply because the same graph functions so in the received standard orthography.

(45) (str.35) *jié* 訐 'reveal or bring up others' faults' :: *jiǎn* 𢇍 'pull up, lift'

In SHZY the hexagram theme *jiǎn* MC *kjot* < ***kat** 𢇍 (Hex.39) is written as 訐, which stands for *jié* MC *kjenX* < ***kran** in the received Qin standard orthography.[168] As Karlgren suggested (1956: 17), these two words are related given the occasional contact between the homorganic nasal and dental stops *-t and *-n.[169] Consider also the *-n ~ *-t interchange in the characters for this textual variation: the form 訐 (SHZY) for *jié* has the phonophoric 干 which generally represents the syllable type ***Kan (**ending in *-**n**), but the Mandarin pronunciation *jié* points to coda *-t* rather than *-n* as its immediate predecessor, which then regularly goes back to OC *-**t**; the form 𢇍 (R) for Mandarin *jiǎn* suggests *-n* which then usually reflects *-**n**; however, the *Guangyun* MC is *kjot*, ending in *-t*, which is reconstructed OC ***kat**.

For the semantic relation, *jié* '*bring up* (others' faults)', may be considered as a figurative sense of *jiǎn* 'pull up'. The following *Zhouyi* lines make better sense if read with their etymological relation in mind.

167 Karlgren in the GSR has two separate phonetic series for 舉 (#75) and 與 (#89) treating the former as a velar series and and the latter a dental series. We now see them together as a single, velar series.
168 MWD has ⿱𡨄走, with 走 'run', an apparent SS of 足 'foot' in R 蹇 .
169 Karlgren cites two pronunciations for 訐: *kān* < *kan* < ***kkan** 'knock against, attack' :: same character *jié* < *kjot* < ***kat** 'to accuse'. See Matisoff (2003: 516-526) on variation between final stops and nasals of the same place of articulation in Tibeto-Burman, between Chinese and TB (hence variation in Sino-Tibeto-Burman), and within Chinese. Matisoff considers this "the most important variational pattern in TB/Sino-Tibetan word families" (p.516).

SHZY: 初六 迬訐⿱來止譽
Received: 初六 往蹇來譽
Six on the first. Finding faults is gone and praising merits has come.

In this line *jiǎn* 蹇/ *jié* 訐 ‘bring up, pull up’ contrasts with *yù* ***[g](r)aʔ-s** 譽 ‘praise, recommend’, which is related to *jǔ* ***k(r)aʔ** 舉 ‘lift, recommend’. We now understand that *jiǎn* 蹇 and *yù* 譽 are both ‘lifting’, but their meanings contrast by the positive and negative connotations respectively.

(46) 蓳 (堇) (str.22) :: 艱 *jiān* ‘be in difficult situation’

The received character 艱 is composed of two equivalent phonophorics, 堇 and 艮 representing the syllable type ***Kər**. (Cf. *qín* ***gər** 堇 ‘clay’, *gèn* ***kkər-s** 艮 ‘hexagram). The corresponding SHZY 蓳 (堇) has only one of the two. These EP alternate in another word occurring in the *Zhouyi*:[170]

(47) ⿰目堇 (str.48) :: 限 *xiàn* ‘obstacle’[171]

Note the semantic relation between *jiān* ***kkrər** 艱 ‘be in a difficult situation’ and *xiàn* ***ggrərʔ** (***N-kkrərʔ**) 限 ‘obstacle, limit’. Based on the alternation of the EP {堇, 艮} and the semantic relation observed in these two words, we can identify a word family with the root meaning OBSTREPEROUS whose members include words in both the 堇 and 艮 series. See first some examples from the 艮 series (GSR #416) with Karlgren’s own definitions.

hěn ***ggərʔ** (***N-kkərʔ**) 佷 var. 很 ‘disobedient,...oppose, quarrelsome...’
hèn ***ggərʔ-s** (***N-kkərʔ-s**) 恨 ‘hate, displeased’
kěn ***kkhərʔ** 墾 ‘cleave, split, damage’

In the light of the etymological connection, we can see *hèn* ‘hate’ is a mode of ‘opposing’ and ‘being difficult’. Words in the 蓳 (堇) phonetic series more or less

170 Karlgren interprets this word *gèn* ***kkər-s** 艮 in the *Zhouyi* “refractory, obstinate, resist” because of its assumed graphic and etymological relation with other words in the same phonetic series.
171 The word written by this character in this *Zhouyi* context is commonly suspected to mean ‘waist’. There is no assumed phonetic loan relation.

all surround the meaning ‘distressed, difficulty’. Besides the representative *jiān* 艱 ‘distressed’, GSR #480 has the following words.

jǐn (< *jìn*) ***gərʔ-s** (***N-kərʔ-s**) 僅 ‘barely’
jǐn ***kərʔ** 謹 ‘cautious, attentive, careful’
qín ***gər** (***N-kər**) 慬 ‘sad, sincere’
The *Yupian* defines this word as ‘agonized, worried’ (CWZ: 629).
qín ***gər** 勤 ‘toil, diligent’

The “cautiousness” and “sincerity” are perhaps emotional reactions or attitudes from being in a difficult situation.

5.2.7 Phonologically motivated lexical variation

(48) 工 (str.17) :: 凶 *xiōng* ‘disastrous’

The SHZY character 凶 (str.26) regularly corresponds to the *xiōng* 凶 ‘disastrous’ of R, except for one place where the character 工 occurs instead.

SHZY: 九 四 陸 又 𦤎 貞 工 ...
Received: 九 四 隨 有 獲 貞 凶 ...
Nine on the fourth. As for the *Sui*, (‘following’), one will gain [something]. Ascertained disastrous (Hex.17 *Sui*).

The OC for the word *gōng* ***kkoŋ** ‘craftsmanship’, which the character 工 regularly stands for in the W.S. script, is phonologically compatible with *xiōng* ***qʰoŋ** 凶. The question is which word the SHZY character 工 is intended for. The word *gōng* ‘craftsmanship’ immediately following *zhēn* 貞 ‘divine, ascertain’ does not fit in the patterns of how this divinatory term is used in the *Zhouyi*. The term *zhēn* is typically followed by a word prognosticating auspiciousness or inauspiciousness of various degrees: *zhēn jí* 貞吉 ‘ascertained auspicius’, *zhēn lìn* 貞吝 ‘~ distressful’, *zhēn lì* 貞厲 ‘~ dangerous’ and *zhēn xiōng* 貞凶 ‘~ disastrous’. Distinctive from these generic words, there is a word ‘illness,’ viz., *zhēn jí* 貞疾 ‘ascertained to be ill’ (Hex.16 *Yu*) occurring in the same syntactic position. Following the syntactic and semantic pattern shown in these examples, the word *jí* ‘illness’ is correctly interpreted as a specialized term appropriate to the line registering an inauspicious divination. Between *zhēn* 貞 and a word of (in)auspiciousness, a word for the subject of divination can be present: *zhēn zhàngrén jí* 貞丈人吉 ‘ascertaining in regard to the able-bodied man, auspicious’ (Hex.7 *Shi*), *zhēn fùrén jí fūzi*

xiōng 貞婦人吉夫子凶 'ascertaining in regard to the wife, auspicious, but in regard to the husband, disastrous' (Hex.32 *Heng*).

If the SHZY phrase "貞工" is intended to mean "ascertained craftsmanship (or accomplishment)," although it appears to make sense in isolation, it would be out of place with that meaning in the language of the *Zhouyi*, and therefore it is unlikely to be the wording in the original *Zhouyi*. The alternation between these two characters or phonophorics 工 and 凶 is unknown from other excavated manuscripts or received early texts, so it does not seem that the former is a legitimate alternative character for the word *xiōng* 'disastrous'. Thus the SHZY variant 工 is most likely an error that has arisen through the phonetic similarity between the two words involved.

6 Conclusions

6.1 The last phase of the early Chinese writing system

The graphic variations that are referred to as phonetic loan characters or 'phonologically related textual variants' in early excavated manuscripts can be accounted for by systematic structural variability of character forms in the early Chinese writing system. In the process of inventing a compound character for a given word, alternative choices were available from sets of graphs that denote meanings of the same semantic category and from ones that stand for words of the same syllable type for use as semantic or phonetic components in any new character. These non-unique options for choosing graphic components for one and the same word are reflected in the early writing system as systematic alternations of signific and phonophoric elements of the same functional value, viz., what we have termed *synonymous significs* and *equivalent phonophorics*.

In any orthographic system of a given historical phase of the early script, character forms inherited from an earlier period co-exist with contemporaneously generated forms. The proportion of the latter, i.e., the contemporaneous stock to the former, the received stock, would decrease over time beginning from the time of the invention of the writing system itself, so that there is general historical continuity in character forms and usages. Once a sufficient number of characters representing common spoken words have been created and accumulated, orthographic change over time, if at all, takes place in the form of occasional replacement of old forms with new ones, and not of, say, a large scale, periodical restructuring and reforming of the entire writing system. The replacement of one graph by another has various motivations such as language change, in particular non-parallel phonological developments, and historical evolution of script style, such as graphic simplification and structural regularization (e.g., a tendency towards using common graphic elements rather than non-recurring, pictographic elements and inclination for using signific-phonophoric compounds.) Thus from a certain historical time onwards, the script of one period is a 'received writing system' in relation to its immediate predecessor, which includes only an insignificant portion of newly created characters. The writing system of the present time, for example, is virtually the same as that of the Han period (206 BCE-CE 220).

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6.2 Regionalism in a single script system

The W.S. script is as closely related to the Western Zhou script, which is known to us mainly by ritual bronze inscriptions, as the modern standard script is related to the Han clerical script. The W.S. script inherited the character forms from the Western Zhou period in their full structural versatility, varying with one another by the alternation of synonymous significs and equivalent phonophorics. The W.S. script as a different phase of the early script from the Western Zhou script distinguishes itself from the latter, among other features, by a great increase of signific-phonophoric compound characters. In turning characters that were previously single-component graphs into compound forms, the received equivalent phonophorics, or to be precise, non-unique rebus usages of single-component characters, are paired up with various alternative significs pre-existing in the system as synonymous significs.

This trend of structural change, viz., signific-phonophoric compounding, caused significant increase in variant forms for writing the same words within a region and across regions during the W.S. period. Regional variations in character structures in the W.S. script thus have two main causes, (i) different regional distribution of pre-existing variant forms and (ii) different regional selections (and conventionalization) of signific components for newly created compound characters. Among compounds of the W.S. script origin, forms with new phonophorics are relatively rare compared to those with added significs. Apart from differences in componential structure, regionalism in the W.S. script is also expressed in the use of 'decorative strokes', the apparently non-functional, optional strokes added to the primary strokes in certain graphic environments, as well as in the physical shape of the same shared graphic elements. For instance, regional scripts may vary in the shapes of decorative strokes or in the frequency of their use.

Despite all these various expressions of regionalism, the regional scripts of the W.S. period constituted a single script system in all stylistic and orthographic respects. The use of the 'decorative strokes' itself and the general increase of compound forms are characteristic of the writings of the W.S. period. Furthermore, the regional scripts share the same character forms evolved from their Western Zhou predecessors by adding or deleting specific lines or parts of graphic elements. They share compound forms with the same added phonophoric elements which can hardly be regarded as coincidental since the phonophoric addition itself is relatively rare. We called forms shared by at least two distinct regional scripts, with or without significant changes from the Western Zhou forms, common W.S. character forms (CF). Whenever a CF has a tangible change from its

Western Zhou predecessor, any given region-specific form is explained as a derivation from its CF counterpart, and not directly from the Western Zhou forms, and this clearly demonstrates that the various regional scripts did not exist as 'script systems' per se independent from the W.S. script itself.

We also noted that the calligraphic evolution into the W.S. script can be generally characterized as tendency towards gravity and symmetry. The deletion or simplification of a graphic element in a character tends to occur in the upper part of the character while the addition of obligatory or decorative strokes tends to occur in the lower half. Also, calligraphic and structural changes were made in such a way that both the left and right side in a character have graphic substance. The tendency towards compound forms may be viewed as a change towards structural symmetry.

6.3 The Old Chinese phonology and the early Chinese orthography

The orthography, defined as the collective entity of componential structures of characters and their word associations, of each regional script thus represents part of the *orthographic meta-system*, as we may call it, presumably established well before the W.S. period. This orthographic system reveals a single phonological period as an internally consistent phonological system while containing elements of dialects which are akin to the latter. The former, viz., the mainstream phonology is none other than the Old Chinese, which is consistent with the phonology of the *Shijing* or the *Book of Odes*. The dialect phenomena in the orthographic system are reflected as irregular graphic contact among distinct phonemic categories in the mainstream phonological system.

We do not have sufficient empirical evidence to pin down the precise date of this meta-system and its underlying phonological system(s). Nevertheless, based on the fact that the refined ritual bronze inscription texts circulated across regions already during the Western Zhou period and on the complexity and sophistication of the Western Zhou culture and society, we may suppose that an elaborate orthographic system was basically completed no later than the late Western Zhou period (ca. the ninth to eighth centuries BCE). This was also the time when Scribe Zhou compiled his *Shi Zhou pian*, the earliest known character dictionary which served as a model for the *Cang Jie pian* of the Qin dynasty. The Chinese writing system at this stage should cover a sizable stock of learned words of the early Chinese intelligentsia.

The reason why textual variants in different versions of the same early texts appear as phonetic loan characters is because the character forms and usages derive from the same early orthographic meta-system with the same mainstream phonology and the same dialect mixtures underlying it. The dialect mixtures may have comprised dialect loanwords in the early Chinese lingua franca *yayan*. With regional variants differing from one another by equivalent phonophorics and synonymous significs based on the same phonological system of an earlier period, if a character from one region is 'read' as its structurally coincident character from another region, it will often appear as if the former represents a different word that is phonologically related to the latter. The variability in componential structure which culminated during the W.S. period became drastically reduced during the Qin and early Han periods, eventually to become like the received standard orthography. The frequent occurrences of so-called *tongjia* characters in early Han manuscripts are remnants of graphic variation from the W.S. period. The rare cases of *tongjia* characters in the received early literature are also of the same kind.

6.4 Further implications

Finally, it may be of some use to recapitulate the findings of our study in terms of their implications on phonological and textual studies.

The overall phonological system reflected in the written forms in Chu manuscripts from the W.S. period is that of Old Chinese. An argument that a character form with a phonophoric distinct from its received counterpart represents the contemporaneous or local dialect of the place where the manuscript was produced has to first clarify that the alternating graphs are not equivalent phonophorics originating from an earlier period. Indications of historically early equivalent phonophrics are (i) attestation of the same graphic alternations in early bronze inscriptions, (ii) their recurrence in characters for different words and cognate words in a word family found in either excavated or transmitted sources, and somewhat indecisively (iii) the same phonological patterns of alternation in all the available sources of early texts. The equivalent phonophorics found in manuscript characters can be used to improve our reconstructions of individual OC words and to illuminate etymological relations.

In reading a manuscript with its received counterpart, we would compare the matching characters component by component to see if the graphic alternation fits the patterns of already known sets of synonymous significs and equivalent phonophorics. This way we will not have to depend solely on the received characters to interpret the early character forms. We can now, for instance, seriously

examine the signific elements in manuscript forms for text interpretation and not dismiss them as free variants. Further, knowing that the users of the early Chinese script did not actually have the practice of randomly selecting (near-)homophonous characters, we are no longer justified in claiming candidates for the "proper forms" that early characters might be "loaned for." Instead, we will try to obtain recurring pairs of phonophoric alternations for future reference.

Likewise, occurrences of characters with different phonophoric components in early texts do not in themselves suggest that the texts were reinterpreted or misinterpreted in the course of transmission. We need to consider the existence of duplicate selections of phonophoric elements at the time when the orthographic system was still under development. In a logographic writing system in which the representation of pronunciation is based on the rebus principle, it is natural that more than one graph is frequently selected for the same word. To give an analogy, in the *fanqie* spellings found in the Middle Chinese rhyme dictionary *Qieyun* (CE 601) there are nine different characters all used to represent the same initial sound *k*-, when only one would have been "necessary". But at the same time, alternative phonophorics ought to be kept to a reasonably small number so that the written communication can be worked out. It appears thus far that equivalent phonophorics for one word hardly go over three in number. If this is indeed the case, we have a good deal of hope for grasping the full picture of graphic variation in the early script.

Appendix I: A Lexicon of the Shanghai "Zhouyi"

1. This lexicon lists all words occurring in the Shanghai "Zhouyi" manuscript in Pinyin alphabetical order. 2. For words occuring two times or more in the manuscript, the lexicon enters one representative graph per each graphically and/or structurally distinctive character-type. 3. The definitions include both the meanings in the *Zhouyi* and those in Classical Chinese in general. 4. Undeciphered Shanghai "Zhouyi" characters or those for etymologically obscure words (e.g., phonograms) are indicated as simply "corresponding to" certain characters in the received version.

001 安 *ān* < *ʔan* < ***qqan*** ①'stable', 'secure', ② 'where', 'what', 'how'

str.5

002 班 *bān* < *pæn* < ***ppran*** 'distribute', 'scattered'

str.22

003 [⿱阪土] 阪 *bǎn* < *bænX* < ***bbranʔ*** < ***bbrarʔ*** 'slope'

str.50

SS {阜 (阝) 'mound', 土 'ground'}

This word is probably related to 陂 bēi < *pje* < ***paj*** < ***par*** 'river bank, slope, slanting' (as glossed in GSR #25); note the graphic similarity between 反 (in item 003) and 皮 (in 007). These may have the same graphic origin.
R has 磐 *pán* < *bwan* < ***bba*[n/r]** 'big flat rock' (*Zhouyi*)

004 [⿰邑丰] 邦 *bāng* < *pæng* < ***pproŋ*** 'state'

str.8 str.13

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005 北 *běi* < *pok* < ***ppək** 'north'
str.24 str.35

MWD has 北 and R 丘. The characters 北 and 丘 ( ) are graphically similar.

006 [比] [攴比] 比 *bǐ* (bì) < *pjijX* < ***pijʔ(-s)**
str.10 str.10 'compare', 'side by side' 'obey'; ('dense' 'crowded')

007 [皮] 彼 *bǐ* < *pjeX* < ***pajʔ** < (***parʔ**) 'that', 'those', 'others'
str.56

See 003 above for the explanation of *-r.

008 [衤敝] 敝 *bì* < *bjiejH* (chongniu IV) < ***bet-s** 'wear out', 'worn out'
str.44

SS {衣 'clothes', 攴 'handle'}

009 [褜] 表 *biǎo* < *pjewX* < ***prawʔ** 'outergarment', 'express'
str.6

The clerical form 表 developed from the Qin Seal form 衺 (8a/390) with S 衣 and Ph 毛 (cf. 毛 *máo* < ***mmaw** 'body hair'). The Chu form has Ph 麃 *páo* < ***bbraw** 'a kind of deer', hence EP {毛, 鹿 (~麃)}
R has 褫 *chǐ* < *trhiX* < ***$\mathbf{t^h}$reʔ** 'loosen', 'steal (clothes)'

010 [㝐] 賓 *bīn* < *pjin* (chongniu IV) < ***pin** 'guest', 'expel'
str.40

011 [竝] 並 *bìng* < *bengX* < ***bbaŋʔ** 'together', 'simultaneously'
str.45

012 不 *bù* < *pjut* [irregular coda] < ***pək** ‘not’

str.1 str.1 str.4

013 [⿱付土] 坿 *Shuowen* ‘increase, augment’, possibly a variant of 附 *fù* < *bjuH* < ***bo-s** ‘augment’ via SS {土， 阜}

str.51

R has 蔀 *bù* < *buwX* < ***bbəʔ** (< ***bboʔ**) ‘thatch’

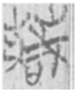
014 菜 *cài* < *tshojH* < ***ttsʰə-s** ‘vegetable’, ‘greens’

str.21

015 [⿰爿言] corresponding to R 藏 *cáng* (*zàng*) < *dzang* (*H*) < ***ddzaŋ**(**-s**) ‘store’, ‘hide’; (‘storehouse’, ‘bury’, ‘intestine’)

str.7

This graph may be a simplified form of 臧, the Chu regional variant to 臧 or 藏.

016  [臧] 藏 *cáng* < *dzang* (*H*) < ***ddzaŋ**(**-s**) ‘store (grain)’; ‘storage place’ ‘bury’

str.40

R has 壯 *zhuàng* < *tsrjangH* < ***tsraŋ-s** ‘strong young man’, ‘able-bodied’
This same correspondence occurs three times (str. 38, 40 and 54).

017 [⿱𡨄心] *Shuowen* ‘solid’ (“實也”) corresponding to R 惻 *cè* < *tsrhik* < ***tsʰrək** ‘pained’, ‘sad’

str.45

The character ⿱𡨄心 seems to be a variant of 塞 *sāi* (< *sè*) < *sok* < ***ssək** ‘blocked’, ‘filled in’; also read *sài* < *sojH* < ***ssək-s** ‘border’, ‘frontier’. This word might have also had a meaning that has to do with emotion. The MWD version has 塞 in this textual position.

018 長 *cháng* < *drjang* < ***draŋ** (***N-traŋ**) ‘long’, ‘strong point’
str.8 *zhǎng* < *trjangX* < ***traŋʔ** ‘senior’, ‘grow’

019 車 *chē* < *tsyhæ* < *$\mathbf{k^{h}a}$ (palatalizing) and *jū* < *kjo* < ***k(r)a** ‘chariot’
str.22

020 臣 *chén* < *dzyin* < ***gin** (palatalizing)
str.30 str.35 ‘servant’, ‘captive’; ‘vassal’ (literally or as a humble self-reference)

021 成 *chéng* < *dzyeng* < ***deŋ** ‘accomplish’, ‘complete’
str.5

The dot in this character appears to be phonophoric, 丁 *dīng* < ***tteŋ** ‘fourth of the *tiangan* Heavenly Stems’.

022 [丞] 承 *chéng* < *dzying* < ***dəŋ** ‘assist’
str.8 str.28

023 [䧼] 乘 *chéng* (*shèng*) < *dying(H)* [irregular initial] < ***ləŋ**(**-s**) ‘ride’, ‘chariot’
str.37

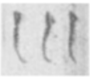
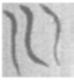
024 [迡] 遲 *chí* (*zhì*) < *drjij* (*H*) < ***lrij**(**-s**) ‘tardy’; (‘wait’)
str.14

025 出 *chū* < *tsyhwit* < ***k**^{h}**ut** (palatalizing) ‘exit’, ‘emerge’
str.2 str.55

026 初 *chū* < *tsrhjo* < ***tts**^{h}**ra** ‘beginning’, ‘formerly’
str.2

027 [凥] 處 *chǔ* (chù) < *tsyhoX* (*H*) < ***k**^{h}**aʔ** (**-s**)
str.16 str.25 str.26 (palatalizing) rest, reside; (residence)
alternates with R *jū* 居 ‘reside’ (regular) and R 机 *jī* ‘plant name’; ‘*ji*-table’ (just once, str.54)

028 畜 [筀] *chù* < *thrjuw* < ***t**^{h}**ruk-s** ‘livestock’, ‘domestic animal’
str.20 str.22 *xù* < *xjuwk* [irregular initial] < ***t**^{h}**uk** ‘rear’, ‘nourish’
SS {田 ‘field’, 土 ‘earth’} EP {竺, 畜}
Note the phonophoric 竺 ① *zhú* < *trjuwk* < ***truk** ‘bamboo’ ② *dǔ* < *tuwk* < ***ttukʔ** ‘thick’, ‘generous’ (篤). Perhaps the character 筀 is a variant form of 畜 with an added phonophoric 竺 and a synonymous signific 土 ‘earth’ as an alternative to the 田 ‘field’.

029   川 *chuān* < *tsyhwen* < *[**k/q**]^{hw}**ən** (palatalizing)
str.2 str.25 str.25 ‘stream’, ‘river’

030 朝 ① *zhāo* < *trjew* < ***traw** ‘morning’
str.6 ② *cháo* < *drjaw* < ***draw** (***N-traw**) ‘morning audience at court’
③ *cháo* < *drjaw* < ***draw** (***N-traw**) ‘morning tide’, ‘current’

031 此 *cǐ* < *tshjeX* < ***ts^{h}eʔ*** ‘this’, ‘these’

str.53

R has 斯 *sī* < *sje* < ***se*** ‘split’; ‘this’ ‘these’ ‘thus’

032 [⿱宀𠂔] 次 *cì* < *tshijH* < ***ts^{h}ij-s*** ‘sequence’ ‘second’; ‘military camp’

str.7 str.53 str.53

033 賜 *cì* (< *sì*) < *sjeH* < ***slek-s*** ‘grant’

str.5 str.7

034 從 *cóng* < *dzjowng* (*H*) < ***dzoŋ(-s)*** ‘follow’, ‘comply’; (‘accompany’, ‘accomplice’)

str.5

035 [⿱爫卩] corresponding to 萃 *cuì* < *dzjwijH* < ***dzət-s*** ‘flock’, ‘crowd’, ‘bunch’

str.42

036 大 *dà* < *dajH* < ***ddat-s*** ‘large’, ‘great’

str.2 str.55 str.25

037 [繻] 帶 *dài* < *tajH* < ***ttat-s*** ‘belt’

str.5

038 [⿰韋聿 ⿰韋聿] corresponding to R 眈眈 *dān-dān* (*dān* < *tom* < ***ttəm**)
str.25 ‘appearance of seriously observing something’ (as interpreted in the *Shuowen*: 眈，視近而志遠。从目冘聲。易曰虎視眈眈; 4b/131)

039 道 *dào* < *dawX* (*H*) < ***lluʔ**(**-s**) ① ‘path’; (‘guide’ > 導)
str.17 ② ‘say’

040 [⿱旦又] 得 *dé* < *tok* < ***ttək** ‘obtain’, ‘gain’
str.16 str.21

041 [悳] 德 *dé* < *tok* < ***ttək** ‘virtue’, ‘inner strength’
str.28

042 覿 *dí* < *dek* < ***ddok** ‘appear’, ‘meet’
str.52

043 弟 *dì* < *dejX* < ***llijʔ** ‘younger brother’
str.8

044 [遉] corresponding to R 顛 *diān* < *ten* < ***ttin** ‘top of the head’, ‘upside down’
str.24 str.25

045 東 *dōng* < *tuwng* < ***ttoŋ** ‘east’

str.35 str.57

046 [迖] corresponding to R 動 *dòng* < *duwngX* < ***ddoŋ** ‘move’

str.43

047 [㪺] 斗 *dǒu* < *tuwX* < ***ttoʔ** ‘Big Dipper’, ‘unit of measure’

str.51

EP {主, 斗}

048 [蜀] 獨 *dú* < *duwk* < ***ddok** ‘alone’, ‘lonely’, ‘independent’

str.38

049 [𦎫] 敦 *dūn* < *twon* < ***ttwən** < ***ttwər** ① ‘thick’ ② ‘urge’

str.49 *duì* < *twoj* < ***ttwəj** < ***ttwər** ‘vanquish’, ‘take under control’

duì < *twojH* < ***ttwəj-s** < ***ttwər-s** ‘type of ritual vessel’

(variant of 鐓)

The form 亯 evolves into 享 in clericization; the component 羊 is displaced by 支.

050 [[illegible],腞] possibly variant of 豚 corresponding to R 遯 *dùn* <

str.30 str.30 *dwonH* < ***llwən-s** ‘hide away’

Note that 彖 and 豕 are distinguished in the W.S. script. The phonophoric series 彖 (GSR # 526) represents the syllable type ***Lwət**.

051 [亞] 惡 ① *è* < *ʔak* < ***qqak** 'loathsome', 'bad'

str.32 *wù* < *ʔuH* < ***qqak-s** 'hate'

② *wū* < *ʔu* < ***qqa** 'how'

SS {口 'mouth', 心 'heart'}

052 而 *ér* < *nyi* < ***nə** ①'whiskers' ② 'and then', 'but'

str.17 str.20 str.22

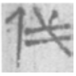
053 [尒] 爾 *ěr* < *nyeX* < ***nijʔ**< ***nir**ʔ ①'blooms of flower' ②'you', 'your'; 'this'

str.24

Cf. 獮 *xiǎn* < *sjenX* < ***s-nirʔ** 'automal hunt', 'kill'

054 二 *èr* < *nyijH* < ***nij-s** 'two'

str.22

055  伐 *fá* < *bjwot* < ***bat** 'cut down', 'attack'

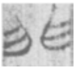
str.13

056 反 *fǎn* < *pjwonX* < ***parʔ** 'turn over', 'return'; 'betray'

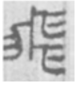
str.35

057 方 *fāng* < *pjwang* < ***paŋ** 'square'; 'quarter', 'area', 'direction'

str.9

058  非 *fēi* < *pjwɨj* < ***pəj** 'not to be'; 'wrong', 'blame'

str.10

059  飛 *fēi* < *pjwɨj* < ***pəj** < ***pər** ‘fly’ (Cf. ***Cə.pər** in Baxter-Sagart 2011)
str.56

Cf. 翂 *fēn* < *pjun* < ***pər** ‘fly (v.), soar’

060 [肥] 肥 *féi* < *bjwɨj* < ***bəj** ‘fat’
str.31

061 [脊] corresponding to R 腓 *féi* < *bjwɨj* < ***bəj** ‘calf’
str.26

062 [芬] corresponding to R 豶 *fén* < *bjun* < ***bər** ‘castrated pig’
str.23

Perhaps EP {賁, 分}

Cf. *fēn* < *pjun* < ***pər** 饙 ‘to steam rice’ :: 賁 *bì* < ***pər-s** ‘brilliant’, ‘ornate’ (GSR #437); *fēn* < *pjun* < ***pər** 分 ‘divide ’

063 焚 *fén* < *bjun* < ***bən** ‘burn’
str.53

064 豐 *fēng* < *bjuwng* < ***buŋ** ‘abundant’, ‘grand’
str.51

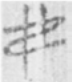
065 缶 *fǒu* < *pjuwX* < ***puʔ** ‘jar’
str.9

066 否 *fǒu* < *pjuwX* < ***pəʔ** ‘not’, ‘not so’
str.31

067 夫 ① *fū* < *pju* < ***pa** ‘grown man’, ‘husband’
str.1 str.9 str.50 ② *fú* < *bju* < ***ba** ‘any particular case’

068 [肤] ① 膚 *fū* < *pju* < ***pra** ‘skin’ (str.33 and 41)
str.33 ② 逋 *bū* < *pwu* < ***ppa** ‘escape’ (str.4)
EP {夫, 膚, 甫}

069 孚 *fū* < *bju* < ***bu** ‘incubate’, ‘protect’
str.40

070  弗 *fú* < *pjut* < ***pət** ‘not’
str.56

071 [𦨂] corresponding to R 拂 *fú* < *bjut* < ***bət** ‘pass by’
str.24

072 [頫] [䫍] 輔 *fǔ* < *bjuX* < ***baʔ**
str.27 str.49 ①‘cheeks, cheekbones’ (*Zhouyi*) ②‘assist’
EP {父, 甫}

073 父 *fù* < *bjuX* < ***baʔ*** 'father'
str.18 *fŭ* < *pjuX* < ***paʔ*** suffix. honorific reference to a man

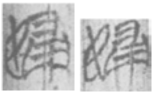
074 [复] 輹 *fù* < *pjuwk* < ***puk*** 'rope'
str.22

075 [逯] 復 *fù* < *bjuwk* < ***buk*** 'return'
str.20 str.37 str.32 str.50 *fù* < *bjuwH* < ***buk-s*** 'repeatedly'
SS {辵 'move', 彳 'road'}

076 福 *fú* < *pjuwk* < ***pək*** 'blessings', 'wine and meat for an offering'
str.57

077 [⿱畐貝/⿰貝畐] 富 *fù* < *pjuwH* < ***pək-s*** 'wealthy'
str.12
SS {貝 'cowie shell, material value', 宀 'roof, treasury'}

078 [⿱伓貝] [伓] ① 負 *fù* < *bjuwX* < ***bəʔ*** 'carry one the back' (str.33)
str.33 str.37 str.48
② 背 *bèi* < *pwojH* < ***ppək-s*** 'the back' (str.48)
EP {伓, 北} *bèi* < *bwojH* < ***bbək-s*** (***N-ppək-s***) 'turn back on'

079  婦 *fù* < *bjuwX* < ***bəʔ*** ‘married woman’, ‘wife’

str.28 str.50

080 [豸丰] corresponding to R 鮒 *fù* < *bjuH* < ***bo-s*** ‘toad’ ‘frog’

str.44

081 [攺] 改 *gǎi* < *kojX* < ***kkəʔ*** ‘change’, ‘alter’

str.44 str.47

This character corresponds once to R *sì* 巳 as in *sì rì* 巳日(str.47). The latter is interpreted as *sì rì* 祀日 ‘day of a *si*-offering’ (Gao Heng 1973: 169)

082 [榦] 幹 *gàn* < *kanH* < ***kkan-s*** ‘trunk’, ‘capable’

str.18 str.18

083 [革]革 *gé* < *kεk* < ***kkrək*** ‘raw-hide’, ‘leather’

str.30 str.47 str.47

084 [峈] 格 *gé* < *kæk* < ***kkrak*** ‘arrive’, ‘connect’

str.42

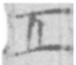
R has 假 *jiǎ* < *kæX* < ***kraʔ*** ‘go’

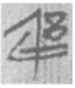
085 [萃] corresponding to R 葛 *gé* < *kat* < ***kkat***

str.43 ‘name of a plant’ as in *gé lěi* 葛藟

086 [目+匕] 艮 *gèn* < *konH* < ***kkər-s** ‘disobey’ (*Shuowen*)
str.48 str.49

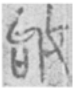
087 [井+爭] 耕 *gēng* < *kɛng* < ***kkreŋ** ‘till’, ‘cultivate’
str.20

088  工 *gōng* < *kuwng* < ***kkoŋ** ‘craftsman(ship)’; ‘achievement’, ‘work’ (> 功)
str.16

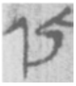
089  [躳] 躬 *gōng* < *kjuwng* < ***kuŋ** ‘body’, ‘oneself’
str.49 str.54
EP {吕 (宫), 弓}

090 [拡] 肱 *gōng* < *kwong* < ***kkʷəŋ** ‘upper arm’
str.51
SS {手 ‘hand’, 肉 ‘flesh’}

091 [巩+女] 鞏 *gǒng* < *kjowngX* < ***koŋʔ** ‘tie’, ‘firm and tight’
str.47

092  [敂] 拘 *jū* < *kjo* < ***kro** ‘fetter’, ‘restrain’ (str.17),
str.40 姤 *gòu* < *kuwH* < ***kko-s** Hexagram name (str.40)
SS {攴 ‘treat’, 手 ‘handle’}

093 [佝] 媾 *gòu* < *kuwH* < ***kko-s*** 'contract (a marriage)'
str.34
EP {句, 冓} and SS {人 'person', 女 'woman'}

094  [⿰亻瓜] 孤 *gū* < *ku* < ***kkʷa*** 'orphaned', 'alone'
str.33
SS {人 'person', 子 'child'}

095 古 *gǔ* (*gù*) < *kuX* (*H*) < ***kkaʔ(-s)*** 'antiquity', 'past'; ('cause', 'reason', 'similar past occurrences', 'deliberately' > 故)
str.35

096 [蛊] 蠱 *gǔ* < *kuX* < ***kkaʔ*** 'legendary poisonous bug'
str.18 str.18

097 [浴] 谷 *gǔ* < *kuwk* < ***kkok*** 'valley'
str.44

098 [⿰木⿱口丰] corresponding to R 牿 *gù* < *kowk* < ***kkuk*** 'pen', 'shackles' (variant of 梏)
str.22
and to MWD 鞫 *jú* < *kjuwk* < ***kuk*** 'restrained', 'obstructed'

099 [苽] 瓜 *guā* < *kwæ* < ***kkʷra*** 'gourd', 'squash'
str.41

100 [夬夬] 夬 *guài* < *kwæjH* < ***kkrat-s** ‘decide’
str.38

101 官 *guān* < *kwan* < ***kkʷan** ‘administrative division’, ‘official’(noun)
str.16

102 [⿰見雚] 觀 *guān* < *kwan* < ***kkʷan** ‘observe’, ‘view’
str.24
Cf. ***C.qwˤar** in Baxter-Sagart (2011)

103 光 *guāng* < *kwang* < ***kkʷaŋ** ‘illumination’, ‘shine’
str.2

104 [⿺辶彐] 歸 *guì* < *kjwɨj* < ***kʷəj** ‘for a woman to marry’, ‘return (home)’
str.50

105 龜 *guī* < *kjwij* < ***kʷə** ‘turtle’
str.24

106 [⿱化止] 過 *guò* < *kwaH* < ***kkʷaj-s** ‘pass by’, ‘surpass’; ‘transgress’
str.56

EP {化, 咼}, SS {辵 ‘move’, 止 ‘step’}

In the Guodian manuscripts the word *guò* 過 used in the sense of ‘transgression’ is regularly written as ⿱化心 (Cheng 36) (CWZ: 621).

107 寒 *hán* < *han* < ***ggan** ‘cold’

str.45

108 [欽] 含 *hán* (*hàn*) < *hom* (*H*) < ***ggəm(-s)** ‘to hold in the mouth’, ‘include’; (‘jade or pearl put in the mouth of the dead’, variant of 琀 or 唅)

str.41

EP {今, 欠}, SS {玉 ‘jade’, 口 ‘mouth’}

109 行 *háng* < *hang* < ***ggaŋ** ‘road’, ‘line’

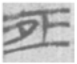
str.13 *xíng* < *hæng* < ***ggraŋ** ‘walk’, ‘act out’

110 [唬] 號 *háo* (*hào*) < *haw* (*H*) < ***GGaw(-s)** ‘shout’, ‘call’; (‘command’ ‘designation’)

str.42

111 好 *hǎo* (*hào*) < *xawX* (*H*) < ***qqʰuʔ(-s)** ‘good-looking’ ‘good’; (‘be fond of’, ‘hospitality’)

str.30

112  [亙] [緪] 恆 *héng* < *hong* < ***ggəŋ** ‘constant’, ‘consistent’

str.15 str.28

SS {糸 ‘thread, continuity’, 心 ‘mind’}

113 [鳿] [紅] 鴻 *hóng* < *huwng* < ***ggoŋ** ‘wild goose’

str.50 str.50

114 [厌] 矦 variant of 侯 *hóu* < *huw* < ***ggo** 'target', 'a hereditary rank'
str.14

115 [逡] 後 *hòu* < *huwX* < ***ggoʔ** 'come behind', 'late'; 'posterity'
str.9
SS {辵 'move', 彳 'road'}

116 [斛] *hú* < *huwk* < ***ggok** 'unit of measure'
str.42
corresponding to R 握 *wò* < *ʔæwk* < ***qqrok** 'to grasp'

117 [鼠瓜] 狐 *hú* < *hu* < ***ggʷa** 'fox'
str.37
SS {鼠 'rat', 犬 (犭) 'dog'}

118 虎 *hǔ* < *xuX* < ***qqʰraʔ** 'tiger'
str.25

119 [户] [床] 户 *hù* < *hwuX* < ***ggaʔ** (***N-kkaʔ** related to 家 *jiā* ***kkra**) 'household'
str.5 str.52

120 [褱] 懷 *huái* < *hwɛj* < ***ggʷrəj** 'cherish', 'embrace'
str.53

121 [⿰睿睪] [⿰睿爰] corresponding to R 渙 *huàn* < *xwanH* < ***qq^{wh}a[n/r]-s**

str.54 str.54 ‘scattered’, ‘spread’

Compare the phonophoric 爰 *yuán* < *hjwon* < ***G^{w}an** < ***G^{w}ar** ‘here’

122 黃 *huáng* < *hwang* < ***gg^{w}aŋ** ‘yellow’

str.30 str.37

123 [⿱花貝] corresponding R 撝 *huī* < *xjwe* < ***q^{wh}aj** ‘indicate’, ‘lead’

str.12

EP {花 (化), 為}

124 [⿱母心] [⿱母口] 悔 *huǐ* < *xwojX* < ***hmməʔ** ‘regret’, ‘trouble’

str.19 str.26 str.47

SS {口 ‘mouth’, 心 ‘heart’}

125 [昏] *hūn* < *xwon* < ***hmmən** ‘marriage’ (> 婚)

str.34

126 或 *huò* < *hwok* < ***GG^{w}ək** ‘(in) some (cases)’, ‘perhaps’

str.5

127 [蒦] 獲 *huò* < *hwɛk* < ***GG^{w}rak** ‘capture (a game or captive)’

str.48

128 [穫] 穫 *huò* < *hawk* < ***GG^{w}ak** ‘harvest’

str.20

129 [毄] 擊 *jī* < *kek* < ***kkek** ‘beat’, ‘strike’

str.1

SS {攴 ‘treat, attack’, 殳 ‘spear’, 手 ‘handle’}

130 吉 *jí* < *kjit* < ***kit** ‘auspicious’, ‘favorable’

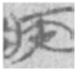
str.5

131 即 *jí* < *tsik* < ***tsək** ‘approach’; ‘precisely’, ‘just so’

str.5

132 汲 *jí* < *kip* < ***krəp** ‘draw water from a well’

str.45

133  疾 *jí* < *dzit* < ***dzit** ‘illness’, ‘urgent’

str.15 str.21

134 [祭] 祭 *jì* < *tsjejH* < ***tsat-s** ‘sacrificial offering’

str.57

SS {攴 ‘treat’, 又 ‘(right-)hand’}

135 [⿱季心] 悸 *jì* < *gjwijH* (chongniu IV) < ***g^{w}it-s** ‘emotionally moved’ (*Shuowen*)

str.48

R has 快 *kuài* < *khwæjH* < ***kk^{wh}rat-s** ‘pleased’

136 既 *jì* < *kjijH* < ***kət-s** ‘exhaust’, ‘total solar eclipse’; ‘already’

str.53

R has 即 *jí* < *tsik* < ***tsək** ‘approach’ ‘on the same day or at the same place’, ‘(if)…then’

137 [淒] 濟 *jì* < *tsej* < ***ttsij-s** ‘ford’, ‘rescue-relieve’, ‘increase’

str.58

EP {妻, 齊}

138 [冡] 家 *jiā* < *kæ* < ***kkra** ‘home’, ‘estate’

str.8 str.22

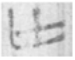
139 [⿰⿱禾力⿱口口] [⿰⿱禾力⿱爫又] 嘉 *jiā* < *kæ* < ***kkraj** ‘fine’

str.17 str.31

SS {口 ‘mouth’, 又 ‘(right-)hand’}

140 [夾] 頰 *jiá* < *kep* < ***kkep** ‘cheeks’

str.27

141  甲 *jiǎ* < *kæp* < ***kkrap** ①‘shell’, ‘armor’
str.18 ②‘the first of the ten *tiangan*, or heavenly stems’

142 [叚] 假 *jiǎ* < *kæX* < ***kkraʔ** ①‘go’ ②‘borrow’
str.54

143 [堇土] 艱 *jiān* < *kɛn* < ***kkrər** ‘be in difficult situation’, ‘difficult’
str.22
EP {堇, 艮}

144 見 ① *jiàn* < *kenH* < ***kken-s** ‘see’, ‘pay a visit’
str.1 str.42 ② *xiàn* < *henH* < ***ggen-s** (***N-kken-s**) ‘appear’

145 建 *jiàn* < *kjonH* < ***kan-s** ‘establish’
str.14

146 [自氵自] 澗 *jiàn* < *kænH* < ***kkran-s** ‘stream-valley’
str.50
R has 干, likely standing for 岸 *àn* < ***ŋŋan-s** < ***ŋŋar-s** ‘bank (of a river)’

147 [斬水] [斬水] [斬水] 漸 *jiàn* < *dzjemX* <***dzam** (***N-tsam**)
str.50 str.50 str.50 ‘progress’, ‘approach’, ‘permeat’
jiàn < *tsjemH* < ***tsam**
‘deceive’

148 交 *jiāo* < *kæw* < ***kkraw** ‘criss-cross’, ‘exchange’

str.16

149 [蒿] 郊 *jiāo* < *kæw* < ***kkraw** ‘suburb’

str.2

EP {高, 交}

150 [洨] corresponding to R 交 interpreted as 皎 *jiǎo* < *kewX* < ***kkewʔ** ‘bright (moon-light)’ in the *Zhouyi*

str.11

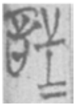
151 角 *jiǎo* (< *jué*) < *kæwk* < ***kkrokʔ** ‘horn’, ‘corner’

str.41

152-**a** 訐 *jié* < *kjot* < ***kat** ‘reveal or bring up others’ faults’

str.35

MWD has 𧽊 and R 蹇 *jiǎn* < *kjenX* < ***kran** ‘pull up’, ‘lift’.

152-**b**  [訐訐]

str.35

153 [𧤴] (繲) 解 *jiě* < *kɛiX* < ***kkreʔ** ‘resolve’, ‘untangle’, ‘analyzse’

str.37

154 戒 *jiè* < *kɛjH* < ***kkrək-s** ‘be on guard against’,
str.10 str.57 ‘forewarned’

This word is written in R once as 誡 (:: str.10) and once 戒 (:: str.57)

155 [㝈] 介 *jiè* < *kɛjH* < ***kkrat-s** ①‘border’ ②‘assist’
str.14

156 今 *jīn* < *kim* < ***kəm** ‘present time’
str.35

corresponding to R 躬 *gōng* < *kjuwng* < ***kuŋ** ‘self’ ‘body’

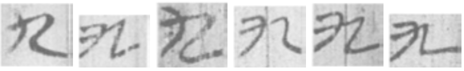
*-əm ~ *-uŋ alternation is known from the *Shijing* rhymes and *xiesheng* series.

157 金 *jīn* < *kim* < ***kəm** ‘metal’, ‘money’
str.1 str.40

158 經 *jīng* < *keng* (*H*) < ***kkeŋ(-s)** ‘road running north to south’;
str.24 (‘pass through’; variant of 徑)

159-**a** [汬] 井 *jǐng* < *tsjeng* < ***tseŋʔ** ‘water-well’
str.44

159-**b** [汬汬]
str.44

160  九 *jiǔ* < *kjuwX* < ***kuʔ*** ‘nine’
str.1 str.2 str.5 str.18 str.57 str.58

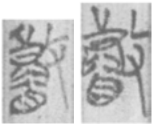
161 [咎] 咎 *jiù* < *gjuwX* < ***guʔ*** ‘disaster’, ‘blame’, ‘fault’
str.2 str.42 str.55

162 就 *jiù* < *dzjuwH* < ***dzu-s*** ‘deter’, ‘assist’, ‘reach to’
str.47

163 舊 *jiù* < *gjuwH* < ***gə-s*** ‘old’, ‘to have been long-lasting’
str.5 str.44

164 氒 variant of 厥 *jué* < *kjwot* < ***k^{w}at*** ‘the aforementioned’, ‘its’
str.11

165 君 *jūn* < *kjun* <***k^{w}ən*** ‘lord(ing)’, honorific term of address ‘you’
str.8 str.12

166  [叡] 濬 *jùn* < *sjwinH* < ***swin-s*** ‘deep’
str.28 str.29

R has 浚 *jùn* < *sjwinH* < ***swən-s*** ‘profound’

167 [衞衞] corresponding to R 衎衎 衎 *kàn* < *khanH* < ***kk^{h}an-s** ‘pleased’
str.5

Cf. 薦 *jiàn* < *tsen* < ***ttsen-s** ‘grass’, ‘fodder’

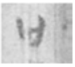
168 攷 variant of 考 *kǎo* < *khawX* < ***kk^{h}uʔ** ① ‘knock’
str.18 ② ‘old’, ‘deceased father’, ③ ‘investigate’

169 [可] [㚙]
str.13 str.25 str.21 str.23

可 ① *kě* < *khaX* < ***kk^{h}ajʔ** ‘permissible’, ‘able’
② *hé* < *ha* < ***ggaj** ‘what’, ‘how’ (> 何)

The occasional variant 㚙 can be related to the Qin standard form 何 by SS {力 ‘man power’, 人 ‘person’}

170 克 *kè* < *khok* < ***kk^{h}ək** ‘capable of’, ‘overcome’
str.4

171  口 *kǒu* < *khuwX* < ***k^{h}(r)oʔ** ‘mouth’
str.24

172 [寇] 寇 *kòu* < *khuwH* < ***kk^{h}(r)o-s** ‘snatch’, ‘invade’
str.1 str.37

SS {戈 ‘halberd’，攴 ‘treat, attack’}

173 [閨] 闚 *kuī* < *khjwie* < ***k**^{wh}**e** ‘peep in’
str.52
EP {圭, 規}
Cf. 圭 *guī* < ***kk**^{w}**e** ‘cinamon’ and 規 *guī* <***k**^{w}**e** ‘model’

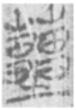
174 頄 *kuí* < *gwij* (chongniu III) < ***gru** ‘jaw’
str.38

175 [楑] corresponding to R 睽 *kuí* < *khwej* < ***kk**^{wh}**ij** ‘deviate’
str.32 and to MWD 乖 *guài* < *kwεj* < ***kk**^{w}**re** ‘discordant’

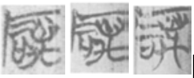
176 困 *kùn* < *khwonH* < ***kk**^{wh}**ən-s** ‘distressed’, ‘to be in straitened circumstances’
str.1 str.43

177 [逨] [𨑥] [𣛱] [𧀔] 來 *lái* < *loj* < ***rrə** ‘come’
str.9 str.35 str.35 str.51
SS {辵 ‘move’, 止 ‘step’}, SS {木 ‘tree’, 草 ‘grass’}

178 [羸/𪚴] 羸 *léi* < *ljwij* < ***rwaj** ‘thin and weak’
str.53

179  [蘲] 藟 *lěi* < *ljijX* < ***rəjʔ** ‘name of a plant’
str.43
SS {草 ‘grass’, 土 ‘earth’}

180 [秎] 利 *lì* < *ljijH* < ***rit-s*** 'sharp'; 'profit', 'benefit'
str.1 str.37 str.11 str.58

181  [礪] [礷] 厲 *lì* < *ljejH* < ***rat-s***
str.18 str.57 str.49 str.22 'grindstone'; 'bad spirit', 'danger'
SS {石 'stone', 厂 'cliff', 土 'ground'}

182 連 *lián* < *ljen* < ***ren*** 'rickshaw', 'connect'
str.35

183 良 *liáng* < *ljang* < ***raŋ*** 'of good quality', 'fine'
str.22

184 [剡] 列 *liè* < *ljet* < ***rat*** 'sever', 'line up'
str.49

185 [㓟] 洌 *liè* < *ljet* < ***rat*** '(for water to be) clean and clear'
str.45

186 [吝] 鄰 *lín* < *lin* < ***r[i/ə]n*** 'neighbor', 'near'
str.13 str.57
EP {吝 (文), 粦}

187 吝 *lìn* < *linH* < ***r[i/ə]n-s*** 'stingy', 'restrained'
str.1 str.28

188 [霝] 靈 *líng* < *leng* < ***rreŋ** 'spirit healer', 'spirit'
str.24

189 六 *liù* < *ljuwk* < ***ruk** 'six'
str.1 str.49 str.56 str.57

190 [陸] 陸 *lù* < *ljuwk* < ***ruk** 'high ground'
str.50
SS {阜 (阝) 'mound' , 土 'ground'}

191 [𦬁] probably a variant of R 陸 *lù* < *ljuwk* < ***ruk** 'high ground'
str.39
via SS {草, 阜 (阝) 'mound' + 土 'ground'}
Cf. 六 *liù* < *ljuwk* < ***ruk** 'six'

192 [𤔔] 亂 *luàn* < *lwanH* < ***rrwan-s** 'chaotic', 'disorderly'
str.42

193 輪 *lún* < *ljwin* < ***rwən** 'wheel', 'roll'
str.58

194 羅 *luó* < *lwa* < ***rrwaj** ①'bird trap', 'net' ②'lay out'
str.56
MWD has 羅 and R has 離 *lí* < *lje* < ***raj** ①'bird name' ② 'separate', 'lay out'

195 [遊] 旅 *lǚ* < *ljoX* < ***raʔ*** ‘make a military expedition’, ‘make an inspection tour’; ‘unit of military organization’, ‘caravan’

str.53

196 縷 *lǚ* < *ljuH* < ***roʔ*** ‘silk or linen thread’, ‘worn out’

str.45

R has 漏 *lòu* < *luwH* < ***rro-s*** ‘leak’ ‘hole’

197 [聿] *lǜ* < *ljwit* < ***rwət*** ‘regulation’ (> 律)

str.7

198 馬 *mǎ* < *mæX* < ***mmraʔ*** ‘horse’

str.22 str.32

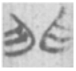
199 尨 *máng* < *mæwng* < ***mmroŋ*** ‘maculated’

str.1

200 [芨] corresponding to R 沬 *mèi* < *mwojH* < ***mmət-s*** ‘daybreak’ (variant of 昧) (*Zhouyi*)

str.51

Cf. *Shuowen* 犮 *bá* < *bwat* < ***bbat*** ‘root of grass’, probably a variant of 拔 *bá* ‘uproot’, ‘eliminate’

201  門 *mén* < *mwon* < ***mmən*** ‘door’, ‘gate’

str.16

202 迷 *mí* < *mej* < ***mmij** ‘confused’, ‘lost’; ‘mislead’
str.19

203 [萅] 廟 *miào* < *mjewH* < ***mraw-s** ‘ancestral temple’
str.42
EP {苗, 朝}, SS {宀 ‘roof’, 广 ‘hall’}

204 明 *míng* < *mjæng* < ***mraŋ** ‘bright’, ‘reveal’
str.45

205 variant of 冥 *míng* < *meng* < ***mmeŋ** ‘dark’
str.15

206 鳴 *míng* < *mjæng* < ***mreŋ** ‘(bird) call’
str.12 str.14

207 [命] 命 *mìng* < *mjængH* < ***mreŋ-s**
str.5 str.7 str.8 ‘command’, ‘fate’, ‘life-span’

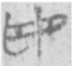
208 莫 ① *mò* < *mak* < ***mmak** ‘none’
str.38 ② *mù* < *mwuH* < ***mmak-s** ‘evening’ (> 暮)

209 [寞] 幕 *mù* < *mak* < ***mmak*** 'tent', 'cover'

str.45

SS {宀 'roof', 巾 'cloth, fabric'}

The signific 宀 'roof' seems to be a plausible alternative to the 巾 'cloth' for a word meaning 'tent'.

210  母 ① *mǔ* < *muwX* < ***mməʔ*** 'mother' 'female'

str.14 ② *wú* < *mju* < ***ma*** imperative negative 'should not' (variant of 毋)

③ *wèi* < *mjɨjH* < ***mət-s*** 'not yet' (未) (str.44)

④ *wù* < *mjut* < ***mət*** imperative negative 'should not' (勿) (str.14)

211 [母手] 拇 *mǔ* < *muwX* < ***mməʔ*** 'thumb'

str.26 str.27

212 内 *nèi* < *nwojH* < ***nnət-s*** < ****nnəp-s*** 'inside'

str.9 *nà* < *nop* < ***nnəp*** 'include' (> 納)

213 乃 *nǎi* < *nojX* < ***nnəʔ*** ①'your' ②'thereupon'

str.42

214 迺 *nǎi* < *nojX* < ***nnəʔ*** 'exclaim of surprise' (*Shuowen*);

str.42 str.47 variant of 乃 *nǎi*

215 南 *nán* < *nom* < ***nnəm*** 'south'

str.35

216 [土匚] (> 坭) 泥 *ní* < *nej* < ***nnij** 'mud', 'maleable'
str.2
SS {土 'earth'，水 'water'}

217 [木尸] 柅 *nǐ* < *njijX* < ***nnijʔ** 'chock'
str.40

218 [禾人] 年 *nián* < *nen* < ***nnin** 'harvest (season)' 'year' 'age'
str.24

219 鳥 *niǎo* [irregular initial] < *tewX* < ***ttewʔ** 'bird'
str.56

220 [宀皿] 寧 ① *níng* < *neng* < ***nneŋ** 'peaceful'
str.9 ② *nìng* < *nengH* < ***nneŋ-s** 'would rather', 'after all'

221 牛 *niú* < *ngjuw* < ***ŋə** 'cow', 'ox'
str.22 str.57

222 女 ① *nǚ* < *njoX* < ***nraʔ** 'female', 'daughter'
str.1 str.57 ② *rú* < *nyo* < ***na** 'as if', 'such as' (> 如)

223 [⿰糹畨] 鞶 *pán* < *bwan* < ***bba**[**n/r**] ‘waist band’
str.5

EP {畔 (半), 般} and SS {糸 ‘thread, fabric’, 革 ‘leather’}

224 [芾] 沛 *pèi* < *phajH* < ***pp**^{h}**at-s** ‘flourish’ ‘thriving’
str.51

Compare 芾 *fèi* < *pjwɨjH* < ***pat-s** ‘luxuriant’
SS {草 ‘grass’, 水 ‘water’}

225 [⿱倗土] 朋 *péng* < *bong* < ***bbəŋ** ‘cohort’
str.14

SS {人 ‘person’, 土 ‘ground’}

226 [⿻東缶] *piáo* < *bjew* < ***braw** ‘bag’
str.40

R has 包 *bāo* < *pæw* < ***ppru** ‘bag, put in a bag’, the two words are probably etymologically related; *-u ~ *-aw vacillation is observed elsewhere.

227 [⿰并缶] 瓶 *píng* < *beng* < ***bbeŋ** ‘bottle’
str.44

SS {缶 ‘pottery’, 瓦 ‘tile’}

228 [⿰亻⿱业臣] 僕 *pú* < *buwk* < ***bbok** ‘servant’, ‘driver’
str.53 str.53

SS {人 ‘person’, 臣 ‘male servant’}

229 [丌] 其 *qí* < *gji* < ***gə**

str.49 str.52 str.37

① 'his, her, its', 'the one in question'

② 'perhaps', 'may' (modal auxiliary)

230 [芑] 杞 *qǐ* < *khiX* < ***k^{h}əʔ** 'plant name'

str.41

SS {草 'grass', 木 'tree'}

231 啓 *qǐ* < *khejX* < ***kk^{h}ijʔ** 'initiate' 'inform' 'make a statement'

str.8

232 [气] 氣 *qì* < *khjijH* < ***k^{h}ət-s** 'air', 'climate', 'breath'

str.44

corresponding to R 汔 *qì* < *xjɨt* < ***q^{h}ət** 'several' (*Shijing*); 'exhausted' (*Guangya*, "Shigu"), also variant of 氣.

233 [㔆] corresponding to R 謙 *qiān* < *khem* < ***kk^{h}rem** 'modest'

str.12

SS {厂 'cliff' (early script variant of 石 'stone') 'stone', 土 'earth'}

234 前 *qián* < *dzen* < ***ddzen** 'front', 'prior'

str.10

235 [䖑] 且 *qiě* < *tshjæX* < ***ts^{h}aʔ** 'furthermore', 'be about to'

str.37

236 妾 *qiè* < *tshjep* < ***ts^{h}ap** ‘female slave’; ‘servant’ (literally or as a humble self-reference of a woman)
str.30

237 [㦸] 侵 *qīn* < *tshim* < ***ts^{h}əm** ‘invade’
str.13

SS {戈 ‘halberd, attack’, 人 ‘man’}

238 欽 *qīn* < *khim* < ***k^{h}əm** ‘admire’ (used as a hexagram title)
str.26 str.27

corresponding to MWD 欽, to Fuyang “Zhouyi” 咸, and to R 咸 ① *xián* < *hɛm* < ***ggrəm** ‘all’, ② *gǎn* < *komX* < ***kkəmʔ** ‘feel’ (感); the *Tuan* commentary’s interpretation of this hexagram theme.

239 [㑒] 禽 *qín* < *gim* < ***gəm** ‘game animal’, ‘beast’
str.10

240 [卿] ① *qīng* < *khjæng* < ***k^{h}raŋ** ‘minister’ (> 卿)
str.12 str.20 ② *xiāng* < *xjang* < ***q^{h}aŋ** ‘village’ (> 鄉)
③ *xiǎng* < *xjangX* < ***q^{h}aŋʔ** ‘feast’ (> 饗)

241 慶 *qìng* < *khjængH* < ***k^{h}aŋ-s** ‘celebrate’, ‘award’
str.51

242 丘 *qiū* < *khjuw* < ***k^{h}ə** ‘mound’, ‘grave’, ‘ruins’
str.55

243 求 *qiú* < *giw* < ***gu** 'seek', 'request'

str.16 str.24

244 驅 *qū* < *khju* < ***k**^{h}**o** 'whip the horse to advance', 'expel'

str.10

245 [𣏑] corresponding to R 衢 *qú* < *gju* < ***g(r)a** 'main street'

str.23

Cf. 丘 *qiū* < *khjuw* < ***k**^{h}**ə** 'mound'

246 取 *qǔ* < *tshjuX* < ***ts**^{h}**oʔ** 'take', 'take a wife' (> 娶)

str.53

247 [𩊚] corresponding to R 闃 *qù* < *khwek* < ***kk**^{wh}**ek** 'quiet'

str.52

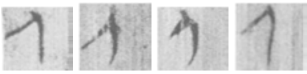
248 [湶] 泉 *quán* < *dzjwen* < ***dzra**[**n**/**r**] 'spring', 'source'

str.45

Cf. Baxter-Sagart (2011): 泉 *quán* < ***s-N-G**^{w}**ar** (I!) 'spring, source, origin' related to 原 *yuán* < ***ŋ**^{w}**ar** (< uvular) 'id.'

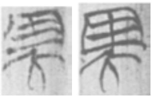
249 [羣] 群 *qún* < *gjun* < ***g**^{w}**ən** 'flock', 'herd', 'congregation'; 'gather'

str.54

250  人 *rén* < *nyin* < ***nin** ‘person’, ‘others’
str.10 str.21 str.21 str.36

251 日 *rì* < *nyit* < ***nit** ‘sun’, ‘day’
str.47

252 戎 *róng* < *nyuwng* < ***nuŋ** ①‘weapon’, ‘battle’ ②‘(western) barbarian’
str.38

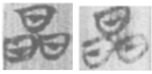
253  需 probably standing for R 繻 *rú* < *nyu* < ***no** ‘silk product’
str.57 str.57

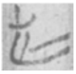
254 [絘] variant of 絮, also of R 袽 *rú* < *nyo* < ***nra** ‘rags’
str.57

Compare 絮 *xù* < *sjoH* < ***s-nra-s** ‘coarse silk’

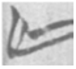
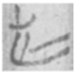
The forms 絘, 絮 and 袽 are variants for the etymon *(**s**-)**nra**(-**s**) with two sets of SS: {糸 ‘thread, fabric’, 衣 ‘clothes’} and {口 ‘mouth’, 又 ‘(right-)hand’}. The latter is semantically empty.

255 若 *ruò* < *nyak* < ***nak** ‘comply’, ‘similar’, ‘if’; ‘you, your’
str.42

256  [晶] 三 *sān* (*sàn*) < *sam*(*H*) < ***ssəm**(-**s**) ‘three’, (‘repeatedly’)
str.24 str.5

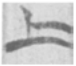
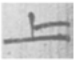
257-**a**  喪 *sāng* (*sàng*) < *sang* (*H*) < ***ssaŋ**(**-s**)
str.32 str.44 str.53 ‘death’, ‘funeral’; (‘lose’)

257-**b** [亡喪] *wú* (無) *sāng* ‘no loss’ via graphic merger (simplification) of
str.32

 (str.25) and  (str.32)

258 [敍] 殺 *shā* < *srɛt* < ***ssrat** ‘kill’, ‘slaughter’
str.57 *shài* < *srɛjH* < ***ssrat-s** ‘reduce’, ‘weaken’
SS {攴 ‘treat, attack’, 殳 ‘spear’}

259 山 *shān* < *srɛn* < ***ssran** ‘mountain’
str.17

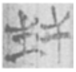
260   上 *shàng* < *dzyangX (H)* < ***daŋʔ(-s)** ‘up’, ‘top’; (‘rise’)
str.8 str.57

261 [肙/肝] 舌 *shé* < *zyet* < ***dat** ‘tongue’
str.27

262 [舍] corresponding to R 舍 *shě* (*shè*) < *syæX* (*H*) < ***hlaʔ**(**-s**) ‘abandon’, ‘release’; (‘housing of a guest’; ‘retain’)
str.24

263 涉 *shè* < *dzyep* < ***dap** ‘wade’, ‘ford’

str.25 str.54

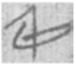
264  牲 *shēng* < *sræng* < ***ssreŋ** ‘sacrificial animal’

str.42

265 [弞] 射 *shè* < *dyæH* < ***llak-s** ‘archery’, ‘shoot’

str.44

The *Shuowen* (5b/226) enters 躲 as a variant of the Seal form 射. The manuscript form 弞 is another variant of the former via SS {弓 ‘oneself’, 身 ‘body, oneself’}.

266  身 *shēn* < *syin* < ***hlin** ‘torso’, ‘body’; ‘oneself’

str.48

267 [乘力] 勝 *shēng* (*shèng*) < *sying* (*H*) < ***hləŋ(-s)** ‘capable’; (‘vanquish’)

str.30

268 [陞] 陞 *shēng* < *sying* < ***s-təŋ** ‘rise’

str.33

SS {阜 (阝) ‘mound’ , 土 ‘ground’, 止 ‘step’}

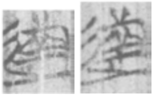
R has 厥 *jué* < *kjwot* < ***k^{w}at** ‘the aforementioned’ (:: str.33) and 拯 *zhěng* < *tsyingX* < ***təŋʔ** ‘raise’ ‘provide a relief’ (::str.48)

269 [𥻊/䝼] 省 ① *shěng* < *srængX* < ***ssreŋʔ** ‘reduce’

str.20 str.56 ② *xǐng* < *sjengX* < ***seŋʔ** ‘inspect’, ‘examine’

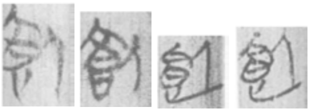
270 [帀] *shī* < *srjij* < ***srij** ‘army’, ‘teacher’ (> 師)
str.7 str.7

271 [歹尸示 analyzed alternatively 礻死] 屍, 尸 *shī* < *syij* < ***hlij** ‘corpse’
str.7 str.8

272  [遊] Chu script for R 失 *shī* < *syit* < ***hlit** ‘lose’
str.10 str.16

273 十 *shí* < *dzyip* < ***gəp** (palatalizing) ‘ten’
str.24

274 石 *shí* < *dzyek* [irregular] < ***dak** ‘stone’, ‘unit of measure’
str.14

275  [飤] 食 *shí* < *zyik* < ***zlək** ‘eat’, ‘live off of’
str.5 str.22 str.44 str.45 Cf. ***mə-lək** in Baxter-Sagart 2011

276 實 *shí* < *zyit* < ***zlit** ‘fortune’, ‘fruit’, ‘substance’
str.24

277 矢 *shǐ* < *syij* < ***hlijʔ** ‘arrow’, ‘lay out’
str.37

278 豕 *shǐ* < *syeX* < ***hleʔ*** ‘pig’
str.23

279 視 *shì* < *dzyijH* < ***gij-s*** (palatalizing) ‘show’, ‘watch’
str.25

280 是 *shì* < *dzyeX* < ***deʔ*** ‘this’, ‘these’
str.57

281 [叓] 事 *shì* < *dzriH* < ***C-rəʔ-s*** ‘matter’, ‘serve’
str.5 str.32 Cf. ***m-s-rəʔ-s*** in Baxter-Sagart 2011
Cf. 吏 *lì* < *liH* < ***rəʔ-s*** ‘scribe’, ‘clerk’, 史 *shǐ* < *sriX* < ***s-rəʔ*** ‘scribe’, ‘historiographer’

282 [⿱啇止] 適 *shì* < *syek* < ***hlek*** ‘go’; ‘suitable’
str.14
SS {辵 ‘move’, 止 ‘step’}
MWD has 讒 *chán* < *dzrɛm* < ***ddzram*** ‘speak ill of others’ and R 簪 (Cf. *zān* 簪 ‘hairpin’), the latter perhaps standing for the word 譖 *zèn* < *tsrimH* < ***tsrəm*** ‘falsely accuse’ (Gao Heng 1973: 61).

283 [⿱⺮右] 筮 *shì* < *dzyejH* < ***dat-s*** ‘milfoil divination’
str.9

284 [䜣] corresponding to R 噬 *shì* < *dzyejH* < ***dat-s** ‘milfoil divination’

str.33

This character corresponds to R 逝 *shì* < *dzyejH* < ***dat-s** ‘depart’ in GD “Laozi-A” (str. 22) (Li Ling 2006: 61). This undeciphered Chu character must have had a pronunciation close to ***dat-s**.

285 首 *shǒu* < *syuwX* < ***hluʔ** ‘head’, ‘beginning’, ‘principal’

str.10 str.57

286 受 *shòu* < *dzyuwX* < ***duʔ** ‘receive’, ‘accept’

str.45 str.57

Cf. Phonophoric 舟 (舟) *zhōu* < *tsyuw* < ***tu** ‘boat’

287 疋 *shū* < *srjo* < ***sra** ‘foot’ in rhyming binom R *zī qiě* 次且 ‘walk with difficulty’

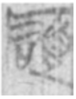
str.38

corresponding to R 且 *qiě* < *tshjæX* < ***ts^{h}aʔ**

288 [衛] 達 variant of 帥 *shuài* < *srjwijH* < ***s-rwət-s** ‘lead’, ‘guide’

str.8

Cf. 率 *lǜ* < *ljwit* < ***rwət** ‘regulation’, ‘norm’, ‘proportion’, also read *shuài*, variant of 達 and 帥. 率 *lǜ* and 律 *lǜ* < *ljwit* < ***rwət** ‘law’, ‘statute’ are probably one and the same etymon.

289  碩 *shuò* < *dzyek* < ***dak** ‘large’, ‘great’

str.36

290 思 *sī* < *si* < ***sə** ‘think of (someone)’
str.55

291 [死] 死 *sǐ* < *sjijX* < ***sijʔ** ‘die’
str.15

292 四 *sì* < *sjijH* < ***sij-s** ‘four’
str.1 str.22

293 祀 *sì* < *zjiX* < ***s-gəʔ** ‘sacrificial offering’ ‘altar’ ‘year of the Shang calendar’
str.43

294 訟 *sòng* < *zjowngH* < ***s-goŋ-s** ‘sue’, ‘litigate’; ‘eulogize’
str.4 str.5
Cf. Phonophoric 公 *gōng* < *kuwng* < ***kkoŋ** ‘lord’

295 [𠈇] 宿 ① *sù* < *sjuwk* < ***suk** ‘lodge’
str.37 ② *xiù* < *sjuwH* < ***suk-s** ‘constellation’
③ *sù* < *sjuwk* < ***suk** ‘morning’ (夙)

MWD has 宿 and R 夙. The *Shuowen* (7b/340) records 𠈇 (the Qin Seal form 宿 minus 宀) a *guwen* variant for *sù* ⿰歹凡 (夙) ‘morning’, ‘early’. The Baoshan Chu manuscripts have ⿰亻⿱西夕 for *sù* 夙 (CWZ: 434).

296 [陵] [陆] [隓] 随 *suí* < *zjwe* < ***zlwaj** ‘accompany’, ‘follow’
str.16 str.16 str.26
Cf. ***sə.loj** in Baxter-Sagart 2011

SS {阜 (阝) ‘mound’ , 土 ‘ground’, 辵 ‘move’}

297 [⿹戉月] 歲 *suì* < *sjwejH* < ***s-G^{w}at-s** 'Jupiter', 'year', 'harvest'
str.52

Cf. 越 *yuè* < ***G^{w}at** 'pass, elapse [of time]', 戉 *yuè* < ***G^{w}at** 戉 'axe'.
EP {戉, 月} (cf. *yuè* < ***ŋ^{w}at** 月 'moon', also signific)

298 所 *suǒ* < *srjoX* < ***s-[k/q]raʔ** 'place', object relativiation marker
str.53 'that which' Cf. ***s-q^{h}raʔ** in Baxter-Sagart 2011

299 它 *tā* (< *tuō*) < *tha* < ***hllaj** 'other'
str.9

300 [⿱帝心] [啻] 惕 *tì* < *thek* < ***tt^{h}ek ~ *hllek**
str.4 str.38 'alarmed, startled'

EP {帝 (=啇), 易} SS {口 'mouth', 心 'heart'}

301 [暜] 替 *tì* (according to Li Ling 2006: 62-3) < *thejH* < ***hnnit-s ~ *hllit-s**
str.44 'abandon', 'substitute'

corresponding to R 泥 *ní* < *nej* < ***nnij** 'mud', 'maleable'

302 天 *tiān* < *then* < ***tt^{h}in** 'sky', 'heaven'
str.11 str.23

303 [畋] 田 *tián* < *den* < ***dden** 'hunt', 'field'
str.8

304 廷 variant of 庭 *tíng* < *deng* < ***ddeŋ** ‘court’

str.48

305 同 *tóng* < *duwng* < ***ddoŋ** ‘identical’

str.49

306 [僮] 童 *tóng* < *duwng* < ***ddoŋ** ‘youth’, ‘adolescent’

str.1 str.22 str.53

SS {人 ‘person’ 土 ‘ground’}

307 [⿱余土] 塗 *tú* < *da* < ***lla** ①‘clay’, ‘smear’ ②‘path’ (variant of 途)

str.33

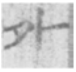
SS {土 ‘earth’, 水 ‘water’}

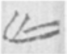
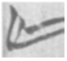
308 [䟴] corresponding to R 臀 *tún* < *dwon* < ***ddwən** ‘buttocks’

str.40

Note the apparent phonophoric 辰 *chén* < *zyin* < *[**d**]**ən** ‘the fifth of *dizhi* earthly branches’ in the manuscript character, and a word in the same series 脣 *chún* < *zywin* < *[**d**]**wən** ‘lip’; the *-ən ~ *wən fluctuation is repeated in 臀 *tún* < *dwon* < ***ddwən**, the word in the received version and its phonophoric 殿 *diàn* < *denH* < ***ddən-s** ‘palace hall’ and ‘buttocks’. As for the *zy-* in 辰 chén and 脣 *chún*, since *d- in Type B normally develops into *dzy-*, this may be an irregular development by *dy-* ~ *dzy-* dialect variation in MC. Or it may be due to *d- ~ *l- fluctuation at OC stage. Thus *d- is given in brackets.

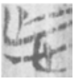
309 [敓] 脫 *tuō* < *thwat* < *hllot 'flay', 'dislocate'
str.22 str.30
SS {攴 'treat, attack', 月(肉) 'flesh'}
R has 說 (:: str.22) interpreted as *tuō* 'flay', 'dislocate' and 說 (:: str.30). The intended meaning of the latter is obscure.

310  外 *wài* < *ngwajH* < *ŋŋʷat-s 'outside' 'external relatives, i.e., on the mother's side'
str.10

311   亡 ① *wáng* < *mjwang* < *maŋ 'escape', 'perish'
str.2 str.25 ② *wú* < *mju* < *m(r)a 'lack' (alternative to 無)

312 王 *wáng* (*wàng*) < *hjwang* (*H*) < *Gʷaŋ(-s) 'king', 'ruler'; ('rule as king')
str. 5

313 [逹] [䢊] 往 *wǎng* (*wàng*) < *hjwangX* (*H*) < *Gʷaŋʔ(-s) 'go toward'; ('return', 'head back')
str.20 str.30 str.33
SS {辵 'move', 彳 'road'}

314  忘 *wàng* < *mjwangH* < *maŋ-s 'forget', 'unaware of'
str.20 str.21 str.39
R has 妄 *wàng* < *mjwangH* < *maŋ-s 'mess up', 'not truly understanding'
In strip no.39, the manuscript character 忘 corresponds to R 无 (variant for *wú* 無 'lack'). The word *wú* 'lack' is regularly written as 亡 in SHZY otherwise. So it is probable that the form 忘 there is used as a variant of 亡.

315 [𢼸] 微 *wēi* (< *wéi*) < *mjwɨj* < ***məj** ① ‘minute’,‘subtle’ ② ‘were it not for’

str.24

MWD has 𢭃 (Cf. 短 *duǎn* < *twanX* < ***ttwarʔ** ‘short’), Fuyang “Zhouyi” 端 *duān* < *twan* < ***ttwar** ‘straight, a unit of measure’, and R 朵 *duǒ* < *twaX* < ***ttwajʔ** < ***ttwarʔ** ‘blossom’.

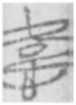
Lu Deming (*Jingdian shiwen* juan2/92) notes that Zheng Xuan’s 鄭玄 and Jing Fang’s 京房 editions both have the character 揣 *chuǎi* < *tsrhjweX* < ***ts^{h}rwajʔ** < ***ts^{wh}rwar** ‘to measure’, possibly ***s-t^{h}rwar**, because the phonophoric series generally reflects *Twar type syllables.

316 為 *wéi* (*wèi*) < *hjwe* (*H*) < ***G^{w}aj(-s)** ‘constitute’, ‘act’, ‘make’; (‘assist’, ‘for the sake of ’)

str.1 str.45

317 尾 *wěi* < *mjwɨjX* < ***məjʔ** ‘tail’

str.30

318  [韋/心] 愇 variant of 韙 (accrd. *Jiyun*) *wěi* < *hjwɨjX* < ***G^{w}əjʔ** (***N-qəj**) ‘righteous’

str.11

R has 威 *wēi* < *ʔjwɨj* < ***q^{w}əj** ‘awe-inspring (demeanor)’

319 未 *wèi* < *mjwɨjH* < ***mət-s** ‘not yet’

str.58

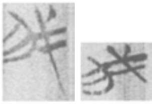
320 [胃] 謂 *wèi* < *hjwɨjH* < ***G^{w}ət-s** ‘address’, ‘refer to something as…’

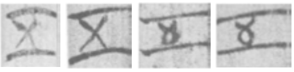
str.56

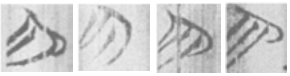
321 [⿰阝戔] corresponding to R 衛 *wèi* < *jwejH* < ***Gʷat-s*** 'guard'
str.22

322 [䎽] 聞 *wén* (*wèn*) < *mjun* < ***mən(-s)*** 'hear'; ('reputation')
str.38
EP {門, 昏}

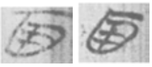
323 [隹] corresponding to R 甕 *wèng* < *ʔuwngH* < ***qqoŋ-s*** 'earthen pot (for drawing water from a well)' (*Zhouyi*)
str.44

324  我 *wǒ* < *ng*(*w*)*aX* < ***ŋŋ(ʷ)ajʔ*** 'I', 'we'
str.24 str.45

325  五 *wǔ* < *nguX* < ***ŋŋaʔ*** 'five'
str.1 str.8 str.10 str.11

326  勿 ① *wù* < *mjut* < ***mət*** 'should not'
str.1 str.21 str.24 str.42 ② *wú* < *mju* < ***m(r)a*** 'lack' (alternative to 無)

327 [雺] 霧 *wù* < *mjuH* < ***mo-s*** 'fog', 'blurry'
str.38
R has 濡 *rú* 'soaked', 'moist'

328  西 *xī* < *sej* < ***ssəj*** < ***s-nnə*** 'west'
str.17 str.57
Cf. phonophoric 西 in 迺 *nǎi* < *nojX* < ***nnəʔ*** (See no.214 above)

329 [⿱⿰冋雈田] 繻 *xī* < *hej* < ***gge** 'knot', 'bind'
str.17

R has 維 *wéi* < *ywij* < ***lwəj** 'tie', 'bind'

330 係 *xì* < *hejH* < ***ggij-s** 'tie', 'of the same genealogy or type'
str.16 str.30

331 [繫] 繫 *xì* < *hejH* < ***ggek-s** (***N-kkek-s**) 'connect', 'bind', 'to im prison'
str.40
jì < *kejH* < ***kkek-s** 'rope'

SS {攴 'treat', 'attack', 殳 'spear'}

332 [选] 先 *xiān* < *sen* (*H*) < ***ssər**(**-s**) 'former', 'precede'; ('initiate')
str.18

Cf. for *-r: 洗 *xǐ* < *sejX* < ***ssər** 'wash', also read *xiǎn* < *senX* < ***ssər** 'id.'

333 顯 *xiǎn* < *xenX* < ***qqʰenʔ** 'apparent', 'obvious'
str.10

334 [莧] *xiàn* < *henH* < ***ggen-s** as in R *xiàn lù* 莧陸 'plant name'
str.39

335 [⿰目堇] 限 *xiàn* < *hɛnX* < ***ggrə[n/r]ʔ** (***N-kkrə[n/r]ʔ**)
str.48 'rough and dangerous (road)' 'obstacle' 'limitation'; 'waist' (*Zhouyi*)

SS {土 'ground', 阜 (阝) 'mound'}, EP {堇, 艮}

336 [亯] 享 *xiǎng* < *xjangX* < ***qʰaŋʔ*** ‘*xiang*-sacrifice’, ‘make an offering’
str.17

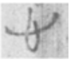
337 [衖] variant of the Seal form [䢼] > 巷 *xiàng* < *hængH* < ***ggroŋ-s*** ‘alley’
str.32
SS {行 ‘road’, 邑 ‘town’}

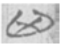
338-**a** ① *xiǎo* < *sjew* < ***s-lewʔ*** ‘small’, ‘petty’ (> 小)
str.16 ② *shǎo* < *syewX* (*H*) < ***hlewʔ(-s)*** ‘of small quantity’ ‘belittle’; (‘young’) (> 少)

338-**b** [尖] 小人 *xiǎo rén* ‘petty person’
str.8

339 [芺] Chu script for 笑 *xiào* < *sjewH* < ***saw-s*** ‘laugh’
str.42
SS {草 ‘grass’, 竹 ‘bamboo’}

340 [朻] corresponding to R 渫 *xiè* < *sjet* < ***s-[g]at*** ‘sweep up’ (*Zhouyi*)
str.45 and to R 收 *shōu* < *syuw* < ***s-ku*** (palatalizing) ‘gather’ in the same strip.
Cf. 糾 *jiū* < *kjuw* < ***ku*** ‘interwine’; 抴 *yè* < *yet* < *[**g**]**at** ‘drag’, related to 曳 *yè* < *yejH* < *[**g**]**at-s** ‘drag, trail’, with phonophoric 曰 *yuē* < *hjwot* < ***Gʷat*** ‘say’

341  心 *xīn* < *sim* < ***səm*** ‘heart’, ‘mind’
str.45 str.49

342  凶 *xiōng* < *xjowng* < ***qʰoŋ*** ‘inauspicious’, ‘bad (harvest)’
str.26 str.58

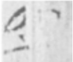
343 [⿰忩頁] corresponding to 羞 *xiū* < *sjuw* < ***s-nu*** ①‘offer (food)’ ②‘shame’
str.28

344 [⿰子卩] corresponding to R 需 *xū* < *sju* < ***s-no*** ‘wait’, ‘hesitate’
str.2

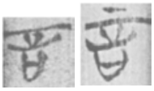
345 [舒] 序 *xù* < *zjoX* < ***zl(r)aʔ*** ‘sequence’
str.49 Cf. ***sə.laʔ*** in Baxter-Sagart 2011
EP {余, 予}

346 [卹] variant of 恤 *xù* < *sjwit* < ***sqʷit*** ‘concerned’, ‘sympathetic’
str.38

347 血 *xuè* < *xwet* < ***qqʷʰit*** ‘blood’
str.2 str.55

348  [坹] 穴 *xuè* < *hwet* < ***[gg/GG]ʷit*** ‘cave’
str.56

349 [⿱牙臼] 牙 *yá* < *ngæ* < ***ŋŋra*** ‘tusk’, ‘fang’
str.23

350  言 *yán* < *ngjon* < ***ŋan*** 'speak', 'speech'
str.47 str.49

351 羊 *yáng* < *yang* < *[**g**]**aŋ** 'sheep'
str.38

352 [⿰言系] 繇 *yáo* < *yew* < ***law*** 'comply', 'follow'
str.25

R has 由 *yóu* < *yuw* < ***lu*** 'follow from'; thes two words are probably related.

353 藥 *yào* < *yak* < *[**g**]**awk** 'herb'
str.21

354 [遏] probably standing for R 曳 *yè* < *yet* < ***[g]at*** 'drag'
str.32

Both the forms 曷 and 曳 contain 曰 *yuē* < *hjwot* < ***Gʷat*** 'say'. As Karlgren explained, the character 曷 is composed of 匃 (variant of 匄) *gài* < ***kat**(-**s**) 'give, beg' and 曰 (GSR #313). [遏] is probably a compound variant of EP {曷, 曳} for the etymon 'drag'.

355 [⿸厂⿱目氺] corresponding to R 曳 *yè* < *yet* < ***[g]at*** 'drag'
str.58

356 一 *yī* < *ʔjit* (chongniu IV) < ***qit*** 'one'
str.42

357 衣 *yī* < *ʔjij(H)* < ***qəj**(**-s**) ‘upper garment’ ‘wrap’ ‘clothe’; (‘wear’)
str.57

358 台 ① *yí* < *yi* < ***lə** ‘I’
str.55 ② *tái* < *thoj* < ***hllə** ‘constellation name’
R has 夷 *yí* < *yij* < ***lij** ‘(eastern) barbarian’, ‘easy’

359 [𡰥] variant of 夷 *yí* < *yij* < ***lij** ‘(eastern) barbarian’, ‘easy’
str.51

360 [頪] 疑 *yí* < *ngi* < ***ŋəʔ** ‘doubt’
str.14

361 [頤] [洍] 頤 *yí* < *yi* < *[**g**]**ə** ‘jaw’
str.24 str.24 str.24 str.24

362 以 *yǐ* < *yiX* < *[**g**]**əʔ** ‘take up to use’, ‘pretext’, ‘by means of’
str.12

363 > 巳 and 已
str.17 str.41 str.22

① *yǐ* < *yiX* < *[**g**]**əʔ** ‘stop’ perfective final particle (> 已 interchangeable with 矣 *yǐ* ***Gəʔ** > *hjiX*)
② *sì* < *ziX* < ***s-gə-s** ‘sixth of the twelve *dizhi* or Earthly Branch’ (> 巳)
③ *yǐ* < *yiX* < *[**g**]**əʔ** ‘by means of’ (interchangeable with 以 in str.17)
④ *qǐ* < *khiX* < ***k**^{h}**əʔ** ‘initiate’ ‘raise’ ‘rise’ (> 起 in str.41)

364 邑 *yì* < *ʔip* < ***qrəp*** ‘town’

str.4 str.10

365 易 ① *yì* < *yek* < ***lek*** ‘exchange’

str.55 *yì* < *yeH* < ***lek-s*** ‘easy’

② *tì* < *thek* < ***hllek*** ‘far’ (variant of 逷, 逖)

EP {易, 狄} Cf. *dí* < *dek* < ***llek*** 狄 ‘northern barbarian’

366 亦 *yì* < *yek* < *[**g**]**ak** ‘also’ ‘only’

str.44

367 [臬刂] variant of 劓 *yì* < *ngjijH* < ***ŋat-s*** ‘cut off nose’

str.43

R has 臲 *niè* < *nget* < ***ŋŋat*** used in the alliterating binom *niè wù* < MC *nget* – *ngwot* 臲卼 ‘unsettled appearance’ (*Jingdian shiwen*, juan 2/108)

368 [酓] 飲 *yǐn* < *ʔinX* < ***qəmʔ*** ‘drink’

str.50

EP {今, 欠} SS {酉 ‘drinks’, 食 ‘food’}

369 [衘] 胤 *yìn* < *yinH* < *[**g**]**in-s** ‘posterity’

str.49

R has 夤 *yín* < *yin* < *[**g**]**in** ① ‘deep; respect’ ② ‘small of the back’

370 corresponding to R 盈 *yǐng* < *yeng* < ***leŋ*** ‘full’, ‘brimful’

str.9

371 [用] [甬] 用 *yòng* < *yowngH* < ***loŋ-s*** 'employ', 'function', 'use to advantage'

str.8 str.4 str.12

372 [悬] 憂 *yōu* < *ʔjuw* < ***qu*** 'worry'

str.41

R has 隕 *yǔn* < *hjwinX* < ***Gʷənʔ*** 'fall down', 'destroy', 'die'

373 由 *yóu* < *yuw* < ***lu*** 'follow (from)'

str.22

R has 逐 *zhú* < *drjuk* < ***lrawk*** 'follow' (str.22 and 32)

374 [猷] 猶 *yóu* < *yuw* < ***lu*** 'plan', 'plot'

str.14 str.25

R has *yóu* < ***lu*** 由 (str.14) as in *yóu yù* 由豫 'hesitatant' and *yù* < *[**g**]**ok** 欲 'desire' (str.25)

375 [又] 有 *yǒu* < *hjuwX* < ***Gʷəʔ*** 'have', 'exist'

str.1 str.57

376 [卣] 卣 ① *yǒu* < *yuwX* < ***luʔ*** '*you*-type vessel'

str.1 str.30

② *yōu* < *yuw* < ***lu*** object relativizating marker written as 攸 in received texts, functionally similar to *suǒ* 所

377 右 *yòu* < *hjuwX* (*H*) < ***Gəʔ(-s)*** 'right hand side'; ('assist' variant of 佑, 祐)

str.11

378 [羕] 永 *yǒng* < *hjwængX* < ***G^{w}raŋʔ** ‘long’, ‘enduring’
str.47

379 于 *yú* < *hju* < ***G(r)a** ‘in, at, on, etc.’, ‘in relation to’
str.2

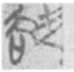
380 余 *yú* < *yo* < ***la** ‘I’
str.14 R has 豫 *yù* < *yoH* < ***la-s** ‘comfortable’

381 魚 *yú* < *ngjo* < ***ŋra** ‘fish’
str.41
Cf. phonophoric 魚 in 魯 *lŭ* < *luX* < ***rraʔ** ‘the State of Lu’.

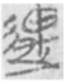
382 [愈] corresponding to R 渝 *yú* < *yu* < ***lo** ‘alter’, ‘augment’ (the same correspondence in Hex.17 *Sui*)
str.5

383 [舁] 輿 *yú* < *yo* < ***[g]ra** ‘cart’, ‘load’
str.7
SS {止 ‘step, move’, 車 ‘chariot’}

384 雨 *yŭ* < *hjuX* < ***G(r)aʔ** ‘rain’
str.38

385  欲 *yù* < *yowk* < *[**g**]**ok** ‘covet’, ‘desire’
str.55

386 御 ① *yù* < *ngjoH* < ***ŋ**(**r**)**a-s** ‘drive a cart’, ‘charioteer’
str.1 ② *yù* < *ngjoX* < ***ŋ**(**r**)**aʔ** ‘resist’; ‘tribute’ (> 禦)

387  遇 *yù* < *ngjuH* < ***ŋo-s** ‘encounter’, ‘respond’
str.32 str.33 str.38 str.56

388 [譽] [舉心] 譽 *yù* < *yoH* < *[**g**]**raʔ-s** ‘praise’, ‘fame’
str.35 str.38 str.51 (***N**-[**k**]**raʔ-s** related to 舉 *jŭ* < *kjoX* < ***k(r)aʔ** ‘lift, recommend’)

SS {言 ‘language’, 心 ‘mind’}

389 corresponding to R 繘 *yù* < *ywit* < *[**g**]^{w}**it** and *jú* < *kwit* < ***k**^{w}**it**
str.44 ‘well-rope’ (*Liji*)

390 元 *yuán* < *ngjwon* < ***ŋ**^{w}**an** ‘head’, ‘prime’, ‘initiation’
str.20 str.33

391 [备] 邍 *yuán* < *ngjwon* < ***ŋ**^{w}**an** < ***ŋlwan** < ***ŋlwar**
str.9 ① (orographic) ‘plain’ (later written 原)
② ‘origin’, ‘spring’ (SHZY; corresponding to R 原)

The *Shuowen* records the Seal form as 邍 {备 + 辶+彔} for ‘plain’ (2b/75), but the W. Zhou early script form (史敖簋) has the component 彖 (*tuàn* < ***hllwan** < ***hllwar** ‘pig’) instead (Rong Geng 1985: 104). Duan Yucai notes that the graph 邍 was later displaced by 原, the proper form for *yuán* ‘origin’. The SHZY on the contrary has the form 备 for the word *yuán* ‘original’, used in the phrase *yuán shì* 备

(原) 箁 (筮) "initial divination", which appears to be a simplified form of the character 邍.

The word *tuàn* 彖 'pig' has an initial consonant of the ***L-** type. This suggests that the word *yuán* 'plain' (邍) should be reconstructed with a cluster such as ***ŋl-**. We cannot tell from the graphic alternation 备 ~ 原 in the script of the late W.S. period whether the word *yuán* 'origin' also had ***ŋl-** since it is possible that the *yuán* ***ŋlwan** 'plain' lost the *-**l**- by that time to become homophonous with the *yuán* ***ŋ**^{w}**an** 'origin'.

392 曰 *yuē* < *hjwot* < ***G**^{w}**at** 'say'

str.22

393 [酌] 礿, 禴 *yuè* < *yak* < ***lawk** 'libation'

str.57

SS {示 'ritual', 酉 'drinks'} and EP {勺, 龠}

394 孕 *yùn* [irregular coda] < *yingH* < ***ləŋ-s** 'pregnant'

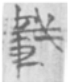
str.50

395 [烖] 災 *zāi* < *tsoj* < ***ttsə** 'wildfire', 'natural disaster'

str.21 str.56

396 [才] *zài* < *dzojX* < ***ddzəʔ** 'exist' 'be located at' (> 在)

str.7 str.56

397  [䡘] 載 ① *zài* < *tsojH* < ***ttsə-s** 'ride', 'vehicle'

str.33 *zài* < *dzojH* < ***ddzə-s** 'load', 'transfer'

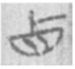
② *zǎi* < *tsojX* < ***ttsəʔ** 'record', 'year'

398 [鼎刀] 則 *zé* < *tsok* < ***ttsək** ① '(if)…then', 'therefore'
str.34 ② 'model', 'pattern'

399 章 *zhāng* < *tsyang* < ***taŋ** 'eye-catching', 'merit', 'chapter'
str.51

400 丈 *zhàng* < *drjangX* < ***draŋʔ** 'staff', 'cane'; 'measure of length'
str.7 str.16

401 [斮] 折 *zhé* < *tsyet* < ***tat** 'cut off', 'bend over'
str.51

402-**a**  貞 *zhēn* (< *zhēng*) < *trjeng* < ***treŋ**
str.2 str.53 str.8 str.48 str.58 'ascertain', 'correct'

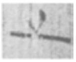
402-**b** [貞貞]
str.53

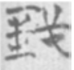
403 征 *zhēng* < *tsyeng* < ***teŋ**
str.13 str.24 str.58 ① 'go on military expedition'
② 'levy a tax'

404 [敕] probably standing for R 拯 *zhěng* < *tsyingX* < ***təŋʔ** 'lift', 'rescue'
str.54

Cf. phonophoric 整 *zhěng* < *tsyengX* < ***teŋʔ** 'put in order'

405 之 *zhī* < *tsyi* < ***tə*** ① 'go'
str.22 str.53 ② 'it, him, them etc.' (Accusative)
③ marker of adjunct-head relation

406  [止] *zhǐ* < *tsyiX* < ***təʔ*** 'foot' (> 趾)
str.48

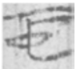
407  [⿰王戈] corresponding to R 執 *zhí* < *tsyip* < ***təp*** 'grasp', 'hold', 'exe cute'
str.30

408 [⿱執女] 執 *zhí* < *tsyip* < ***təp*** 'hold', 'capture'
str.26

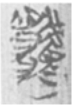
409 至 *zhì* < *tsyijH* < ***tit-s*** 'arrive', 'ultimate point'
str.2 str.44 *zhì* < *trjijH* < ***trit-s*** 'dispatch, 'cause to arrive'(> 致)

410 [⿱之心] 志 *zhì* < *tsyijH* < ***tə-s*** 'intent', 'purpose', 'inclination'; 'record'
str.27
R has 思 *sī* < *si* < ***sə*** 'thoughts'

411 [⿱疐心] 懥 *zhì* < *trjijH* < ***trit-s*** 'angry' corresponding to R 窒 *zhì* < *trjt*
str.4 < ***trit*** 'block' occurring in *zhì tì* 窒惕 'startled and alarmed'

412  [中] [⿱宀中] 中 *zhōng* < *trjuwng* (*H*) < ***truŋ***(**-s**)
str.4 str.39 str.7 'center', 'middle'; ('hit the mark')

413 [冬] [⿱冬心] 終 *zhōng* < *tsyuwng* < ***tuŋ***‘cease’, ‘end’
str.2 str.3 str.12

414  [⿰鼠膚] corresponding to R 甃 *zhòu* < *tsrjuwH* < ***tsru-s*** ‘wall around a well’
str.45

415 攸攸 corresponding to R 逐逐 *zhú-zhú*
str.25

Compare 逐 *zhú* < *drjuwk* < ***lruk** ‘pursue’ and 攸 *yōu* < *yuw* < ***lu** ‘appearance of moving fast’

416 [宔] 主 *zhŭ* < *tsyuX* < ***toʔ*** ‘lord’, ‘host’; ‘center on’
str.32 str.51

417 [㳄] 資 *zī* < *tsjij* < ***tsij*** ‘asset’, ‘resource’
str.53

418 [緀] corresponding to R 次 *zī* < *tsjij* < ***tsij** as in *zī qiĕ* 次且 ‘walk with difficulty’
str.38

Cf. phonophoric 妻 *qī* < *tshej* < ***tts^{h}əj** ‘wife’

419 子 *zĭ* < *tsjiX* < ***tsəʔ*** ‘child’, ‘son’
str.8

420 自 *zì* < *dzjijH* < ***dzij-s** ① 'onself', 'on one's own'

str.11 ② 'start from'

Cf. Baxter-Sagart 2011: *zì* < *dzjijH* < ***S.bit-s** 'start from' :: 鼻 bí [irregular tone] < *bjijH* < ***m-bit-s** 'nose', ***Cə.bit-s** 'smell (v.t.)'

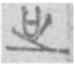
421 宗 *zōng* < *tsowng* < ***ttsuŋ** 'lineage (temple)'

str.33

422 走 *zǒu* < *tsuwX* < ***ttsoʔ** 'run'

str.54

R has *bēn* 奔 'rush'

423  足 *zú* < *tsjowk* < ***tsok** 'lower body', 'foot'

str.48

R has *féi* 腓 'calf'

424 左 *zuǒ* < *tsaX* < ***ttsajʔ** 'left'

str.7

Appendix II: Index of Synonymous Significs and Equivalent Phonophorics

1. Transcriptions of character forms in SHZY or other manuscripts, and bronze inscriptions are given in square brackets, to be followed by corresponding received standard characters. 2. Numbers preceded by # indicate the item numbers in Appendix I. Unmarked numbers are page numbers in the main text.

Index of Synonymous Significs

阜 (阝) 'mound' , 土 'ground'	[阪], 阪 *bǎn* 'slope': 174, #003 [塦], 陳 *chén* 'military camp': 173 [墜], 地 *dì* 'territory': 173 [坿], 附 *fù* 'to augment': 175, #013 [疆], 疆 *jiāng* 'border': 123 [陵], 陵 *líng* 'mound': 173 [陸],[陸], 陸 *lù* 'high ground': 173, 174, #190 [險], 限 *xiàn* 'rough and dangerous (road)': 238, #335
草 'grass', 阜 (阝) 'mound' , 土 'ground'	[坿], 附 *fù* 'append, increase', and 蔀 *bù* 'thatch': 174, 175, #013 [六], 陸 *lù* 'high ground': #191
阜 (阝) 'mound' , 土 'ground', 止 'step', 辵 'move'	[陞], 陞 *shēng* 'rise': 174, #268 [陡], 隨 *suí* 'accompany, follow': #296
𠂤 'small mound' ("小阜" in *Shuowen* 14b/731), and 宀 'roof'	[次], [師], 次 *cì* 'military camp': 213, #032
辵 'move', 彳 'road', 止 'step'	[復], 復 *fù* 'return': 176, 177, #075 [洛], [逄], 格 *gé* 'arrive': 224 [過], 過 *guò* 'pass by': #106 [後], 後 *hòu* 'come behind': 26, 176, 177, #115 [逨], [來], 來 *lái* 'come': 73, 177, #177

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<table>
<tr><td></td><td>[𢓜], 逆 nì ‘go against’: 176
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[𢕟], [𧒅], [邁], 萬 wàn ‘ten thousand’: 176
[迬], 往 wǎng ‘go toward’: 26, #313
[御], 御 yù ‘inspection tour’: 176
[正= 𤴓], 征 (= 辽) 征 zhēng ‘go on a military campaign’: 104, 176</td></tr>
<tr><td>止 ‘step, move’, 車 ‘chariot’</td><td>[𨌷], 輿 yú ‘cart, load’: 236, #383</td></tr>
<tr><td>走 ‘run’, 足 ‘foot’</td><td>[𨅬], 蹇 jiǎn ‘pull up, lift’: 237</td></tr>
<tr><td>言 ‘language’, 心 ‘mind’</td><td>[𢙢], 讎 chóu ‘respond’: 180
[𢛳], 德 dé ‘innate power’: 180
[𢡎], 警 jǐng ‘warn’ : 181
[𢘈], 謀 móu ‘plot’: 180
[愆], 諐 qiān ‘breach’: 181
[請], 情 qíng ‘circumstances’: 181
[𢘓], 訓 shùn ‘comply’: 180
[譽], [𢡺], 譽 yù ‘praise, fame’: 181, 236, #388
[說], 悅 yùe ‘consider something satisfactory’: 182</td></tr>
<tr><td>糸 ‘thread’ and 心 ‘mind’</td><td>[絚], [𢛢], 恆 héng ‘constant, perpetuate’: 194, #112
[𢗰], 終 zhōng ‘cease, conclude’: 195, 196, #413</td></tr>
<tr><td>言 ‘language’, 音 ‘sound’, 人 ‘person’, 又 ‘(right-) hand’</td><td>[詐], [䪨], [乍], [㑅], [𠈇], 作 zuò ‘make, create’: 112, 113, 115</td></tr>
<tr><td>口 ‘mouth’, 心 ‘heart’</td><td>[忞], [𢙴], 哀 āi ‘sad’: 189
[亞], 惡 è ‘loathsome’: 189, #051
[𢙾], [呣], 悔 huǐ ‘regret’: 189, #124
[𢡟], [啻], 惕 tì ‘alarmed, startled’: 189, #300</td></tr>
<tr><td>手 ‘hand’, 肉 ‘flesh’</td><td>[扝], 肱 gōng ‘upper arm’: #090</td></tr>
</table>

面 'face', 肉 'flesh', 頁 'head'	[頍], [胈], [䩉], 輔 *fǔ* 'cheeks, assist': 201, 202, #072
攴 'treat', 示 'ritual'	[𠤱], [祜], 簠 *fǔ* 'type of ritual vessel': 131
攴 'treat', 又 '(right-)hand' 寸 'measure', 手 'hand', 力 'manpower'	[㝵], [复], [㝵], [[illegible]], [得], [㝵], 得 *dé* 'obtain': 146, #040 [攻], [玒], 工, 功 *gōng* 'work, craftsmanship, accomplishment': 114, 116 [祭], 祭 *jì* 'sacrifice, sacrificial offering': 19, 179, 180, #134 [堅], 堅 *jiān* 'firm': 179 [敂], 拘 *jū* 'fetter, restrain': 229, #092 [叡], 叡 *ruì* 'thorough', 濬 *jùn* 'deep': 86, #166 [叡], 摣 *zhā* 'snatch': 212
攴 'treat, attack', 殳 'spear'	[敗], [𣪘], 敗 *bài* 'defeat': 178 [攻], [玒], 工 *gōng* 'craftsmanship': 114 [敼], 擊 *jī* 'beat, strike': 179, #129 [敜], [𣪠], 令 *lìng* 'command': 149 [敺], 毆, *qū* 'drive, herd': 179 [敎], 殺 *shā* 'kill': 179, #258 [繫], 繫 *xì* 'bind, imprison': 179, #331 [政], 政 *zhèng* 'govern': 178
攴 'treat, attack', 肉 'flesh'	[敓], 脫 *tuō* 'flay, dislocate': #309
攴 'treat, attack', 戈 'halberd',	[救], 救 *jiù* 'rescue': 178 [寇], 寇 *kòu* 'snatch', 'invade': 178, 179, #172 [启], 启 *qǐ* 'initiate': 178
戈 'halberd', 人 'person'	[䢜], 侵 *qīn* 'invade': #237
人 'person', 女 'woman'	[佝], 媾 *gòu* 'contract (a marriage)': 228, #093
人 'person', 子 'child'	[侎], 孤 *gū* 'orphaned, alone': #094
人 'person', 土 'ground'	[堋], 朋 *péng* 'cohort': 119, 120, #225 [僮], 童 *tóng* 'adolescence': 119, 163, #306

人 ‘person’, 臣 ‘male servant’	[⿰亻菐], 僕 *pú* ‘servant’: #228
人 ‘person’, 立 ‘standing man’	[⿰立童], 童 *tóng* ‘adolescence’: 164 [⿰立胃], 位 *wèi* ‘position’: 115 [⿰立長], [倀] *zhǎng* ‘elder’: 115
力 ‘manpower’, 人 ‘person’	[⿰力何], 何 *hé* ‘what’, ‘how’: #169
玉 ‘jade’, 口 ‘mouth’	[欽], 含 *hàn* ‘jade or pearl put in the mouth of the dead’: 205, #108
牛 ‘cow, ox’, 羊 ‘sheep’	[⿱罓羊], 犅 *gāng* ‘ox’: 186 [⿱宀羊], 牢 *láo* ‘pen’: 186
鼠 ‘rat’, 豸 ‘ferocious animal’, 犬 (犭) ‘dog’	[⿰鼠瓜], 狐 *hú* ‘fox’: 186, #117 豹 *bào* ‘a kind of wild cat’, 貉 *hé* ‘badger’, 貍 *lí* ‘fox’ written with 鼠 ‘rat’ in Chu manuscripts: 186
田 ‘field’, 土 ‘earth’	[⿱竹土], [畜], 畜 *chù* ‘livestock’: #028
草 ‘grass’, 木 ‘tree’	[棶], [萊], 來 *lái* ‘come’: 73, 177, #177 [芑], 杞 *qǐ* ‘plant name’: 177, #230
草 ‘grass’, 竹 ‘bamboo’	[芺], 笑 *xiào* ‘laugh’: #339 [⿱竹葬], 葬 *zàng* ‘burial’: 19
草 ‘grass’, 土 ‘earth’	[⿱艹壘], 藟 *lěi* ‘name of a plant’: #179
草 ‘grass’, 水 ‘water’	[芾], 沛 *pèi* ‘flourish’: #224
草 ‘grass, vegetation’, 阝 (邑) ‘town’	[蒿], [茭], [鄗], 郊 *jiāo* ‘suburb’: 206, #149
行 ‘road’, 邑 ‘town’	[衖], [⿰邑邑], 巷 *xiàng* ‘alley’: 145, #337
水 ‘water’, 土 ‘earth’	[⿰土匚] (> 坭), 泥 *ní* ‘mud’: 101, 191, #216 [⿱少土], 沙 *shā* ‘sand’: 191 [⿱余土], 塗 *tú* ‘clay’: 191, #307
日 ‘sun, day’, 月 ‘moon, month’	閒, 間 *jiān* ‘(time, space) between’: 145 [⿰止戈], [⿱艹戈], 歲 *suì* ‘year’: 145, #297
㔾 ‘plough’, 刀 (刂) ‘knife’	[⿰禾勿], 利 *lì* ‘sharp, benefit’: 159, 189, #180 棃, 梨 *lí* ‘pear (tree)’: 190 犂, 犁 *lí* ‘plough’: 190 [⿰鼎勿], 則 *zé* ‘(if)...then’ : 159, 190, #398

缶 'pottery', 瓦 'tile', 土 'earthenware'	[缶+瓦], 缶 *fǒu* 'jar': 192 [缾], [坪], 瓶 *píng* 'bottle': 191, #227
石 'stone' (var. 厂), 土 'earth'	[礪], [礰], 厲 *lì* 'grindstone, adversative': 192, #181 [壥] corresponding to R 謙 *qiān* 'modest': 193, #233
宀 'roof', 广 'hall'	[庡],安 *ān* 'stable': 183 [宕], 宕 *dàng* 'pass by, cave-dwellig': 183 [廣],廣 *guǎng* 'spacious': 182 [庿], 廟 *miào* 'ancestral temple': 27, 183, #203 [宴], 宴 *yàn* 'feast': 183
糸 'thread, fabric', 革 'leather'	[縏], 鞶 *pán* 'waist band': 205, #223
糸 'thread, fabric', 衣 'clothes'	[縷], 褸 *lóu* 'collar': 184 [襁] , 繈 *qiǎng* 'cloth used to carry a baby on the back': 184 [衹], 緹 *tí* 'reddish yellow silk': 184 [絮], 絮 *xù* 'coarse silk', 袽 *rú* 'rags': 184, 185, #254
巾 'cloth, fabric', 衣 'clothes'	常, 裳 *cháng* 'lower-garment': 123
巾 'cloth, fabric', 宀 'roof',	[寞], 幕 *mù* 'tent, cover': #209
巾 'cloth, fabric', 竹 'bamboo'	[笞], 席 *xí* 'mat': 145
衣 'clothes', 攴 'handle'	[襒], 敝 *bì* 'to wear out, worn out': #008
弓 'oneself', 身 'body, oneself'	[弽], 射 *shè* 'archery': #265
酉 'wine, drinks', 食 'food'	[酓], [歓], 飲 *yǐn* 'drink': 165, 205, #368
示 'ritual', 酉 'wine (offering vessel)'	[酌], 礿, 禴 *yuè* 'libation': 226, #393
鼎 'type of vessel', 皿'vessel'	齍 *zī* 'type of bronze vessel', with 鼎 or 皿 in W. Zhou bronze inscriptions: 199
金 'metal', 皿 'vessel'	[盬], 簠 *fǔ* 'type of ritual vessel', also for *zhù* 鑄 'cast' and for *xǔ* 盨 'type of bronze ritual vessel' in bronze inscriptions: 131

貝 ‘cowrie shell, material value’, 宀 ‘treasury’	[⿰貝畐], 富 *fù* ‘wealthy’: #077
貝 ‘cowrie shell, material value’, 金 ‘metal’	[賜], 錫 (or 賜) *cì* ‘give, grant’: 187
Semantically void 又 ‘(right-) hand’ and 口 ‘mouth’	[⿰爿⿹戈又], 藏 *cáng* ‘store, hide’: 185, #016 [⿱加糸], [⿱癶叚], 嘉 *jīa* ‘fine’: 185, #139 [⿰糸⿱如又], 絮 *xù* ‘coarse cotton’, 袽 *rú* ‘rags’: 185, #254 [⿰金壽],[⿱壽金], 鑄 *zhù* ‘cast’: 185

Index of Equivalent Phonophorics

毛, [illegible] (~麃) for *Maw ~ Paw	[illegible], 表 (< Qin Seal [illegible]) *biǎo* ***prawʔ** ‘outer garment, express’: 27, 28, #009
賁, 分 for (*Pən <)*Pər	[芬], 豶 *fén* ***bər** ‘castrated pig’: #062
夫, 甫 for *Pa	[肤], 逋 *bū* ***ppa** ‘escape’: 132, #068 [甫] as in 夫人 *fū rén* ‘primary wife’: 131 Alternating in a word family for ‘assist’: 扶 *fú* ***ba** ‘support’, 輔, 俌 *fǔ* ***baʔ** ‘assist’ ‘strut (of a chariot)’, 賻 *fù* ***ba-s** ‘gift money’, 傅 *fù* ***pa-s** ‘tutor’: 132
父, 甫 for *Pa	[illegible], [illegible], [illegible], 輔 *fǔ* ***baʔ** ‘cheeks, assist’: 73, 201, #072
畔 (半), 般 for *Pan	[illegible], 鞶 *pán* ***bban** ‘waist band’: 205, #223
怀, 北 for *Pək ~ *Pəʔ	[illegible],負 *fù* ***bəʔ** ‘carry on the back’ related to [怀], 背 *bèi* ***ppək-s** ‘the back’: 233, #078
付, 部 for *Po	[illegible], 附 *fù* ***bo-s** ‘append, increase’ and 蔀 *bù* ***bboʔ** ‘thatch’: 175, #013
缶, 包 for *Pu ~ *Paw (dialect variation)	[illegible] *piáo* (according to *Tangyun*) ***baw** ‘bag’, 包 *bāo* ***ppru** ‘bag’: 223, #226
龙, 蒙 for *Moŋ	[龙], 蒙 *méng****mmoŋ** related to *máng****mmroŋ** ‘muddled’, ‘maculated’: 234, #199
母, 某 for *Mə	[illegible], 謀 *móu* ***mmə** ‘plot’: 180 [某], 梅 *méi* ***mmə** ‘plum’: 180
門, 昏 for *Mən	[illegible], [昏], 聞 *wén*, *wèn* ***mən(-s)** ‘hear, ask’: 27, 209, 210, #322
古 *Ka, 夫 *Pa, 甫 *Pa (dialect variation)	[illegible], [illegible], [祜], [盬], [鈷], [illegible], [illegible], [illegible], [illegible], 簠 *fǔ* ***paʔ** ‘kind of ritual vessel’: 131
黃 *K^{w}aŋ, 㞷 *K^{w}aŋ, 匚 *Paŋ (dialect variation)	[illegible],[illegible], [illegible], [illegible], 筐 *kuāng* ***k^{wh}aŋ** ‘square shaped basket’, 方 *fāng* ***paŋ** ‘square’, 匚 *fāng* ***paŋ** ‘square container’: 131, 134
虍 *Q(r)a, 夫 *Pa (dialect variation)	[肤], 膚 *fū* ***p(r)a** ‘skin’: 224, #068

享(亨) *Qaŋ, 方 *Paŋ (dialect variation)	[芳], 享 *xiǎng* ***q^{h}aŋʔ** 'type of sacrifice': 133
香 *Qaŋ, 芳 *Paŋ (dialect variation)	香 *xīang* ***q^{h}aŋ** 'fragrance', 芳 *fāng* ***p^{h}aŋ** 'fragrance': 133
卿 (> 饗), 享 ~ 亨 for *Qaŋ	饗 *xiǎng* ***q^{h}aŋʔ** 'feast' and 享 *xiǎng* ***q^{h}aŋʔ** 'a type of sacrifice' probably one and the same etymon for 'feast, kind of sacrifice', also related to [卿], 亨 *hēng* ***qq^{h}raŋ** 'success, primary sacrifice': 230, #240
舁, 車, 牙 for *K(r)a	[轝], 輿 *yú* ***[g](r)a** 'cart, load' related to 車 *chē* ***k^{h}a** (palatalizing) and *jú* ***k(r)a** 'chariot': 236, #383
各, 假 for *Kak ~ *Kaʔ (dialect variation)	[illegible], [各], [佫], [illegible] *gé* ***kkrak** 格 'arrive' and [叚], [徦], 假 *jiǎ* ***kkraʔ** 'arrive': 224, #084
閒/閑, 干 for *Kan ~ *ŋan	[illegible], 澗 *jiàn* ***kkran-s** 'valley' related to 岸 *àn* ***ŋŋan-s** 'bank (of a river)': 232, #146
訐 (干), 蹇 for *Kan ~ *Kat	[訐] *jié* ***kran** 'reveal or bring up others' faults' related to 蹇 *jiǎn* ***kat** 'pull up, lift': 237, #152
曷, 曳 for *Kat ~ *Qat	[遏], 曳 *yè* ***[g]at** 'drag': #354
侃 , 衍 for *Kan	[諐], 愆 *qiān* ***k^{h}ran** 'transgress': 181
堇, 艮, 斤 for (*Kən <) *Kər	[illegible], 艱 *jiān* ***kkrər** 'be in difficult situation': 238, #143 related to [illegible], 限 *xiàn* ***ggrərʔ** (***N-kkrərʔ**) 'obstacle, rough and dangerous (road)': 238, #335 [斤], 謹 *jǐn* ***kərʔ** 'prudent': 83
堇, 斤 for *Tsam (a second value)	[illegible], 漸 *jìan* ***dzamʔ** 'approach': 82, #147 漸 {水 + (車 <) 堇 +斤} *jiān* ***tsam** 'moisten': 82
以, 巳/已 for *Kəʔ	[巳/已], 以 *yǐ* ***[g]əʔ** 'by means of': 228, #362, #363
句, 冓 for *Ko	[佝], 媾 *gòu* ***kko-s** 'contract (a marriage)': 228, #093
今, 欠 for *Kəm ~ Qəm	[酓], [㱃], 飲 *yǐn* ***qəmʔ** 'drink': 165, 205, #368 [欽], 琀, 含 *hán* 'hold (in the mouth)': 205, #108

高, 交 for *Kaw	[蒿], [茭], [鄗], 郊 *jiāo* ***kkraw** ‘suburb’: 206, #149
圭, 規 for *Kʷe	[閨], 闚 *kuī* ***kʷʰe** ‘peep in’: #173
化, 咼 for *Kʷaj ~ *Qʷaj	[化], 過 *guò* ***kkʷaj-s** ‘pass by’: #106
花 (化), 為 for *Kʷaj ~ *Qʷaj ~ ŋʷaj	[蒷], 撝 *huī* ***qʷʰaj** ‘lead, indicate’: 193, 206, #123 [貨], 貨 *huò* ***qqʷʰaj-s** ‘material (wealth)’: 206 訛, 譌 *é* ***ŋŋʷaj** ‘altered, error’: 206
戉, 月 for *Gʷat ~ *ŋʷat	[戢], 歲 *suì* ***s-Gʷat-s** ‘year’: 144, #297
爰, 夗 for (*Qʷan <) *Qʷar	媛 *yuàn* ***Gʷrar-s** ‘beautiful woman’, 婉 *wǎn* ***qʷarʔ** ‘beautiful’: 71
官, 完 for *Kʷan	管, 筦 *gǔan* ***kkʷanʔ** ‘pipe, flute’: 70
元, 原 for (*ŋʷan <) *ŋʷar	[忈], 願 *yuàn* ***ŋʷan-s < ŋʷar-s** ‘desire’: 70
褱, 威 for Qʷəj	[褱], 韙 *wěi* ***Gʷəjʔ (*N-qʷəjʔ)** ‘righteous, grandeur’ related to 威 *wēi* ***qʷəj** ‘awe-inspiring’: 235, #318
吕/宮,弓 for *Kuŋ	[船], [躳], 躬 *gōng* ***kuŋ** ‘oneself’: 207, #089 [窮], 窮 *qíong* ***guŋ** ‘ultimate’: 207 [芎], [营] *kōng* ***kʰuŋ** ‘plant name’: 207
率, 聿 for *S-rwət	[衛] (達), 帥 *shuài* ***s-rwət-s** ‘lead’ ‘lead’ related to 率 ~律 *lǜ* ***rwət** ‘rule, regulation’:234, #288
吝 (文), 粦 for *M-rin ~ *M-rən	[答], 鄰 *lín* ***r[i/ə]n** ‘neighbor’: 207, 208, #186
苗, 朝 for *M-raw	[富], 廟 *miào* ***mraw-s** ‘ancestral temple’: 27, 183, #203
隹, 离 for *Rwaj ~ *Raj (dialect variation)	[羅] *luó* ***rrwaj** ‘bird trap’, ‘lay out’ and 離 *lí* ***raj** ‘bird name’ ‘lay out’: 225, #194
它, 彖 for (*Lwaj <)*Lwar	[墜], 地 *dì* ***llwaj-s** < ***llwar-s** ‘ground’: 173
易, 狄 for *Lek	[易], 逿, 逖 *tì* ***hllek** ‘far’: #365
帝 (=啇), 易 for *Tek ~ *Lek (dialect variation)	[悳], [啻], 惕 *tì* ***ttʰek** ~ ***hllek** ‘alarmed’: 189, 220, #300
主, 斗 for *Toʔ	[斗], 斗 *dǒu* ***ttoʔ** ‘Big Dipper’: 119, #047
東, 童, 重 for *Toŋ	[潼], [連], 動 *dòng* ***ddoŋʔ** ‘move’: 163

	[僮], [⿺辶童], 童 *tóng* ***ddoŋ** ‘adolescence’: 163, 164, #306 鍾, 鐘 *zhōng* ***toŋ** ‘bell’: 164
竺 (竹), 畜 for *Tuk	[笁], 畜 *chù* ***t^hruk-s** ‘livestock’: #028
余, 予 for *La	[⿰余予], 序 *xù* ***zl(r)aʔ** ‘sequence’: 204, # 345 [余], 豫 *yù* ***la-s** ‘hexagram name’: 203, #380 舒 *shū* ***hla** ‘comfortable’ written 豫, 悆 in various *Shangshu* versions: 204
尸, 夷 for *Lij	[尸], 夷 *yí* ***lij** ‘barbarian’: 212, 213, #359 夷, [⿺辶尸], 遲 *chí* ***lrij** ‘tardy’: 213, #024
卣, 攸 for *Lu	[卣], [⿺辶卣], 攸 *yōu* ***lu** ‘object relativization marker’: 209, #376
攸, 遙 for *Lu ~ *Law (dialect variation)	攸, 悠 *yōu* ***lu** ‘far’, 遙 *yáo* ***law** ‘far’: 222, #415 [⿰言系], 繇, 由 *yóu* ***lu** ‘follow from’: 223, #352
由, 逐 for *Lu(k) ~ *Law(k) (dialect variation)	逐 *zhú* ***lraw-k** ‘pursue’, *yóu* ***lu**(**k**) 由 ‘follow from’: 222, #373
同, 用/甬 for *Loŋ	Alternating in a word family for ‘penetrate’ 湧, 涌 *yǒng* ***loŋʔ** ‘gush forth (as a spring)’, 筩,筒 *tóng* ***lloŋ** ‘(bamboo) tube’, 通 *tōng* ***hlloŋ** ‘pass through’, 洞 *dòng* ***lloŋ-s** ‘fast current, penetrate, cave’, 迵 *dòng* ***lloŋ-s** ‘thorough’: 34
勺, 龠 for *Lawk ~ *Tawk (dialect variation)	[酌], 礿, 禴 *yuè*, *zhuó* ***lawk**, ***tawk** ‘libation, pour’: 226, #393
翟, 龠 for *Lawk ~ *Tawk (dialect variation)	[⿰魚龠], 躍 *yuè* ***lawk** ‘jump’: 32, 227
𢦏 (才), 宀 for *Tsə	[⿱才火], [烖], [灾], 災 *zāi* ***ttsə** ‘natural disaster’: 208, #395
朿, 次 for *Tsij	[⿱宀朿], [⿰口朿], 次 *cì* ***ts^hij-s** ‘military camp’: 214, #032
妻, 齊 for *Tsij	[淒], 濟 *jì* ***ttsij-s** ‘ford’: 199, #137 齍 *zī* ***tsij** ‘kind of bronze vessel’, with 妻 or 齊 in W. Zhou bronze inscriptions: 199

Two special classes of Equivalent Phonophorics

EP for negative particles (from Section 5.2.3)

亡, 无 for *wú* ***m*(*r*)*a*** 無 'not have, not exist': 215, #311
母, 毋, 勿 for *wù* ***mət*** 勿 'should not': 215, #210, #326
母, 毋, 未 for *wèi* ***mət-s*** 未 'not yet': 216, #210, #319
勿, 無 for *wú* ***m*(*r*)*a*** 無 'not have, not exist': 219, #326

EP for sound-symbolic words (from Section 5.2.4)

[illegible] [illegible], 窒惕 for *zhì tì* 'frustrated and alarmed' like ***trit*(-*s*) *ttʰek*** or ***trit*(*-s*) *hllek***: 220, #300, #411
猷余，由豫，猷豫 for *yóu yù* 'being indecisive' like ***lu *la***: 220, #374, #380
韇韇, 眈眈 for *dān dān* 'appearance of seriously observing something' like ***ttəm *ttəm*** or ***ttwər *ttwər***: 221, #038
緀 疋, 郪胥, 次且 for *zī qiě* 'walk with difficulty' like ***ttsʰij *sra*** or ***tsij *tsʰaʔ***: 221, #287, #418

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